

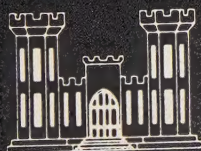
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SAN FRANCISCO BAY AREA IN-DEPTH STUDY

VESSELS AND PORT FACILITIES ANALYSIS

CHANNELS, PORTS
AND
RELATED FACILITIES INVENTORY

JUNE 1973



U.S. ARMY ENGINEER DISTRICT, SAN FRANCISCO
CORPS OF ENGINEERS
SAN FRANCISCO, CALIFORNIA

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SAN FRANCISCO BAY AREA IN-DEPTH STUDY
CHANNELS, PORTS AND RELATED FACILITIES INVENTORY

June 1973

Shipping San Francisco bay area
Ports " " "
" Sacramento
" Stockton

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INTRODUCTION

1. BACKGROUND

This report stems from the outline of work set forth in the "Detailed Plan of Study of the San Francisco Bay In-Depth Study," dated 8 March 1971. It documents the existing, planned and potential port facilities at Bay Region ports, including the Delta ports of Sacramento and Stockton, together with existing and planned navigation channels, anchorages and bridge restrictions. Other related transportation facilities such as the land and air modes and pipelines are also presented, but in less detail. Ports inventoried include Benicia, Oakland (including Alameda), Redwood City, Richmond, Sacramento, San Francisco, San Pablo Bay and Carquinez Straits and Stockton. Data for this report were derived from numerous sources including the Corps of Engineers' Board of Engineers for Rivers and Harbors Port Series publications, other Corps' reports, the Golden Gate Atlas of the Marine Exchange and reports of the ports and private terminals. Anchorage data were provided by the Coast Guard and oil and gas pipeline data were furnished by the various member companies of the Western Oil and Gas Association.

2. This report constitutes partial fulfillment of the initial phase of the Vessels and Port Facilities Analysis which is being cochaired by the Maritime Administration and the Corps of Engineers. Other participants in this analysis include the Coast Guard, the Environmental Protection Agency and the Fish and Wildlife Service.

SAN FRANCISCO BAY REGION

3. GENERAL DESCRIPTION

The area of investigation for this report consists of the San Francisco Bay Region Counties of: Marin, Sonoma, Napa, Solano, Yolo, Sacramento, San Joaquin, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco. The San Francisco Bay and Delta waterway system consists of the entrance at the Golden Gate, a series of connecting bays, two major rivers which have their confluence at the eastern arm of the Bay system and numerous interconnecting tidal waterways in the Delta area. The Bay system at the confluence of the Sacramento and San Joaquin Rivers in the vicinity of Pittsburg has an area of approximately 435 square miles and a shoreline of about 275 miles at mean sea level. Making up this system are four interconnected bays: South San Francisco Bay, Central San Francisco Bay, San Pablo Bay and Suisun Bay. The Delta area comprises a triangular-shaped area of about 115 square miles with the cities of

Sacramento and Stockton, and the confluence of the Sacramento and San Joaquin Rivers forming the corners and the two rivers and the western foothills of the Sierra-Nevada forming the sides of the triangle. Within this triangular area are some 100 leveed and reclaimed agricultural tracts and about 600 miles of interconnected and meandering tidal waterways. Within this Bay-Delta waterway system is located the largest port complex on the Pacific Coast of the United States, consisting of seven ports and numerous private bulk cargo terminals all with channel access depths exceeding 30 feet. Locations of these ports and other features are shown on Plate 1.

4. NAVIGATION OVERVIEW (INCLUDING SHALLOW DRAFT DEVELOPMENT)

The entrance to the Bay-Delta port complex is the mile-wide Golden Gate which is approximately 640 statute miles south of the mouth of the Columbia River and 420 miles north of Los Angeles. The entrance can be entered through one of three channels - the Bonita Channel, parallel to the coast north of Point Bonita; the main ship channel, which crosses the San Francisco Bar from a southwest direction; and the south channel, parallel to the coast south of Point Lobos. The San Francisco Bar is a submerged sandbar extending in an arc outside the Golden Gate at a distance of about 5 miles. Construction of the main ship channel through the Bar to a width of 2,000 feet and depth of 50 feet was authorized by the River and Harbor Act of 1935. Pre-dredging depth of the Bar at the location of the ship channel was about 32 feet. By 1945, the channel was deepened to 48 feet and the authorized 50-foot depth was accomplished in 1959. The current project for deepening the channel to 55 feet was authorized by the River and Harbor Act of 1965. Dredging to that depth has been initiated and it is expected that a depth of 55 feet will be available in 1973.

5. Commercial ports within the Bay and Delta port complex are located at San Francisco, Redwood City, Oakland-Alameda, Richmond, Benicia, Sacramento and Stockton. The location of these ports is shown on Plate 1. Numerous private terminals and harbor facilities are located throughout the port complex, including the petroleum transfer docks and wharves along the shores of San Pablo Bay, Mare Island Strait, Carquinez Strait and Suisun Bay. The commercial ports and numerous other public and private facilities of the Bay-Delta complex are served by approximately 160 miles of Federally-constructed and maintained navigation channels. About 80 percent of these channels are dredged to depths in excess of 30 feet. Under existing authorizations, approximately 100 miles of the connecting channels are to be improved and maintained to depths in the 35- to 55-foot range. Pertinent information on existing navigation channels serving commerce in the San Francisco Bay and Delta Area is presented in Table 1. Details of the shallow draft navigation projects listed in Table 1 are shown on Plates 2 through 9.

TABLE 1

EXISTING NAVIGATION DEVELOPMENT SAN FRANCISCO BAY AND DELTA AREA

PROJECT	AUTHORITY	NAVIGATION FEATURES
<u>DEEP DRAFT:</u>		
SAN FRANCISCO HARBOR	RIVER & HARBOR ACTS 1927 TO 1937	CHANNEL 50 FEET DEEP AND 2000 FEET WIDE THROUGH THE SAN FRANCISCO BAR; APPROACH CHANNEL ISLAIS CREEK, 35 FEET DEEP; AND, A CHANNEL 750 FEET WIDE AND 10 FEET DEEP TO SAN FRANCISCO AIRPORT ENDING IN A BASIN ABOUT 2000 FEET AND 10 FEET DEEP. ALL PROJECTS COMPLETED.
REDWOOD CITY HARBOR	RIVER & HARBOR ACTS 1910 TO 1950	CHANNEL 500 FEET WIDE AND 30 FEET DEEP ACROSS SAN BRUNO SHOAL; CHANNEL 300 FEET WIDE AND 30 FEET DEEP TO THE APPROXIMATE VICINITY OF THE CONFLUENCE OF WESTPOINT SLOUGH AND REDWOOD CREEK; TURNING BASIN AT THAT LOCATION 2,300 FEET LONG AND FROM 400 TO 900 FEET WIDE; CHANNEL 400 FEET WIDE, 30 FEET DEEP AND 1300 FEET LONG, WIDENING INTO A SECOND TURNING BASIN 900 FEET WIDE, 1,700 FEET LONG AND 30 FEET DEEP; AND A SHALLOW CHANNEL 150 FEET WIDE AND 5 FEET DEEP EXTENDING TO STEINBERGER SLOUGH. ALL PROJECTS COMPLETED.
OAKLAND HARBOR	RIVER & HARBOR ACTS 1922 TO 1945	CHANNEL IN THE OUTER HARBOR 35 FEET DEEP AND 600 TO 950 FEET WIDE, INCLUDING A TURNING BASIN 35 FEET DEEP AND 950 FEET WIDE; CHANNEL IN THE INNER HARBOR 30 FEET DEEP VARYING FROM 275 TO 800 FEET IN WIDTH TO THE PARK STREET BRIDGE AND CONTINUING AT A DEPTH OF 18 FEET AND A WIDTH OF 275 FEET THROUGH THE TIDAL CANAL TO SAN LEANDRO BAY; CHANNEL 25 FEET DEEP AND 300 FEET WIDE AT THE NORTH END OF BROOKLYN BASIN; A NORTH JETTY AND A SOUTH JETTY AT THE ENTRANCE OF THE INNER HARBOR, 9,500 FEET AND 12,000 FEET RESPECTIVELY; AND, FOUR BRIDGES ACROSS THE TIDAL CANAL, TWO OF WHICH HAVE BEEN REPLACED BY LOCAL INTERESTS TO MEET TRAFFIC NEEDS FOR ENLARGED HIGHWAY CROSSINGS. ALL PROJECTS COMPLETED EXCEPT DEEPENING OF THE TIDAL CANAL.
RICHMOND HARBOR	RIVER & HARBOR ACTS 1917 TO 1954	CHANNEL 35 FEET DEEP AND 600 FEET WIDE THROUGH SOUTHAMPTON SHOAL TO THE OUTER HARBOR; ENTRANCE CHANNEL TO THE INNER HARBOR 35 FEET DEEP AND 600 FEET WIDE TO A TURNING BASIN AT POINT RICHMOND, THENCE CONTINUING AT THE 35 FOOT DEPTH WITH A WIDTH OF FROM 500 TO 600 FEET TO POINT PORTRERO; AN INNER HARBOR CHANNEL 35 FEET DEEP AND 850 FEET WIDE TO THE ENTRANCE OF THE SANTA FE CHANNEL AND CONTINUING AT A DEPTH OF 30 FEET THROUGH THE SANTA FE CHANNEL AND THE TURNING BASIN; A RUBBLE MOUND TRAINING WALL 10,000 FEET LONG (PARALLEL TO THE CHANNEL BETWEEN POINT RICHMOND AND POINT PORTRERO) EXTENDING WESTERLY FROM BROOKS ISLAND; AN APPROACH AREA 32 FEET DEEP IN THE OUTER HARBORS AT POINT ORIENT AND POINT SAN PABLO; A CHANNEL 20 FEET DEEP, 150 FEET WIDE AND ABOUT 2,000 FEET LONG ALONG THE NORTH SIDE OF POINT SAN PABLO; AND A MANEUVERING AREA AT THE RICHMOND LONG WHARF 35 FEET DEEP. ALL PROJECTS COMPLETED.
SAN PABLO BAY AND MARE ISLAND STRAIT.	RIVER & HARBOR ACTS 1902 TO 1945	CHANNEL 35 FEET DEEP, 600 FEET WIDE AND ABOUT EIGHT MILES LONG IN SAN PABLO BAY ACROSS THE PINOLE SHOAL; A CHANNEL 30 FEET AND 700 FEET WIDE THROUGH MARE ISLAND STRAIT TO A TURNING BASIN ABOUT 1,000 FEET WIDE BETWEEN VALLEJO AND MARE ISLAND, AND TWO APPROACH AREAS 20 FEET DEEP TO THE WATERFRONTS AT VALLEJO; AND FOR MAINTENANCE BY THE CORPS OF ENGINEERS OF TWO APPROACH AREAS TO THE NAVY YARD PIERS AT THE SOUTHERN END OF MARE ISLAND.
CARQUINEZ STRAIT AND SUISUN BAY	RIVER & HARBOR ACTS 1927 TO 1960	NAVIGATION CHANNEL THROUGH THE UPPER REACHES OF CARQUINEZ STRAIT AND THE LOWER SUISUN BAY 30 FEET DEEP AND 200 FEET WIDE TO CHIPPS ISLAND. ALL PROJECTS COMPLETED.
SAN JOAQUIN RIVER AND PORT OF STOCKTON	RIVER & HARBOR ACTS 1927 TO 1960	30 FOOT CHANNEL, 400 FEET WIDE, FROM SUISUN BAY AT PITTSBURG TO VENICE ISLAND AND 225 FEET WIDE FROM VENICE ISLAND TO STOCKTON; CHANNEL IMPROVEMENTS AT STOCKTON AND OTHER RELATED DEVELOPMENTS. ALL PROJECTS COMPLETED.
SACRAMENTO DEEP WATER SHIP CHANNEL AND PORT OF SACRAMENTO	RIVER & HARBOR ACT 1946	CHANNEL 30 FEET DEEP, 43 MILES LONG FROM DEEP WATER IN SUISUN BAY TO SACRAMENTO; AND A TRIANGULAR HARBOR AND TURNING BASIN 2,000 FEET BY 4,000 FEET AND 30 FEET DEEP AT LAKE WASHINGTON. THE SHIP CHANNEL FOLLOWS WIDENED AND DEEPENED EXISTING CHANNELS IN THE LOWER SACRAMENTO RIVER AND CACHE SLOUGH AND AN EXCAVATED CHANNEL WITH A DEPTH OF 30 FEET AND A BOTTOM WIDTH OF 200 TO 300 FEET, NORTH TO THE PORT. ALL PROJECTS COMPLETED.
<u>SHALLOW DRAFT:</u>		
SAN RAFAEL CREEK PETALUMA RIVER NAPA RIVER	RIVER & HARBOR ACTS 1902 TO 1945	CHANNEL 6 FEET DEEP AND 100 FEET WIDE DREDGED IN SAN RAFAEL CREEK; CHANNEL 8 FEET DEEP AND 100 FEET WIDE IN THE PETALUMA RIVER; CHANNEL IN THE NAPA RIVER VARYING FROM A DEPTH OF 15 FEET AND A WIDTH OF 100 FEET IN THE LOWER REACHES TO A DEPTH OF 10 FEET AND A WIDTH OF 75 FEET IN THE UPPER REACHES. ALL PROJECTS COMPLETED.
SUISUN CHANNEL	RIVER & HARBOR ACTS 1910 & 1937	CHANNEL 8 FEET DEEP, 200 FEET WIDE AT ENTRANCE, 100-125 FEET WIDE REMAINING PART OF CHANNEL TO SUISUN CITY, 13 MILES NORTH OF MOUTH; AND A TURNING BASIN 275 FEET WIDE AND 600 FEET LONG. ALL PROJECTS COMPLETED.
SACRAMENTO RIVER	RIVER & HARBOR ACTS 1875 TO 1935	CHANNEL 10 FEET DEEP, 150-200 FEET BOTTOM WIDTH, FROM SUISUN BAY TO SACRAMENTO; CHANNEL 6 FEET DEEP BETWEEN SACRAMENTO AND COLUSA; CHANNEL 5 FEET DEEP BETWEEN COLUSA AND CHICO LANDING; AND A BARGE CANAL WITH NAVIGATION LOCKS, WITH MINIMUM DEPTH OF 13 FEET CONNECTING THE DEEP WATER SHIP CHANNEL TO THE SACRAMENTO RIVER. ALL PROJECTS COMPLETED.
MIDDLE RIVER	RIVER & HARBOR ACTS 1930 & 1935	CHANNELS 9 FEET DEEP AND 100 FEET WIDE IN MIDDLE RIVER BELOW BORDEN HIGHWAY BRIDGE; IN LATHAM SLOUGH BETWEEN MIDDLE RIVER AND EMPIRE CUT; AND IN EMPIRE CUT, WISKEY SLOUGH AND TURNER CUT BETWEEN MIDDLE RIVER AND SAN JOAQUIN RIVER.
MOKELUMNE RIVER	RIVER & HARBOR ACT 1884	CLEARING AND REMOVAL OF SNAGS AND OBSTRUCTIONS AND OCCASIONAL DREDGING OF SHOALS FROM MOUTH OF RIVER TO GALT-NEW HOPE BRIDGE, A DISTANCE OF 35 MILES, INCLUDING BOTH FORKS.
OLD RIVER	RIVER & HARBOR ACT 1937	CHANNELS RANGING FROM 5 TO 10 FEET DEEP EXTENDED ALONG OLD RIVER FROM ITS MOUTH NEAR VENICE ISLAND TO ITS SOURCE IN THE SAN JOAQUIN RIVER NEAR MOSSDALE.



The Golden Gate. The mile-wide entrance to the San Francisco Bay Harbor Complex.



- LEGEND**
- MAJOR COMMERCIAL AIRPORTS
 - PORT AREAS



SAN FRANCISCO BAY AREA IN-DEPTH STUDY CALIFORNIA
PORT FACILITIES INVENTORY
SAN FRANCISCO BAY REGION

U.S. ARMY ENGINEER DISTRICT, SAN FRANCISCO, CORPS OF ENGINEERS
DRAWN TO ACCOMPANY REPORT
TRACED DATED JUNE 1972
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6. A listing and description of the bridge constraints on Bay Region channels and the designated anchorage areas as well as deep draft channel configurations are presented in subsequent sections of this report.

7. OTHER TRANSPORTATION FACILITIES

a. Highways. Ports in the Bay Region are served by the extensive system of highways shown on Plate 10. More than 100 common carrier trucklines serve the region and the two largest trucking firms in the country are headquartered here. There are also more than 600 other motor carriers serving the Region.

b. Railroads. The three railroads that serve the Region are the Santa Fe Railroad Company, Southern Pacific Transportation Company and the Western Pacific Railroad Company. In addition, the Northwestern Pacific Railroad Company, affiliated with the Southern Pacific Company, and the Sacramento Northern Railway Company, affiliated with the Western Pacific Company, serve portions of California. Three ports have their own beltline switching services - San Francisco, Oakland and Alameda. The routes of these railroads are shown on Plate 10. Rail facilities at each port are discussed in the next section of this report.

c. Pipelines. Major pipelines for conveyance of crude oil and refined products are shown on Plates 11 and 12. Pertinent pipeline data are presented in Table 2.

d. Airports. The San Francisco Bay Region is served by the three major airports shown on Plate 1 - San Francisco and Oakland International Airports and San Jose Airport. Airlines currently operating their own cargo facilities at San Francisco airport include Pan American, United, American, Western, Transworld, Flying Tiger and Airlift International. Oakland Airport is world headquarters for three large supplemental carriers: World Airways, Trans-International Airlines and Saturn Airways.

TABLE 2

SAN FRANCISCO BAY REGION PETROLEUM PIPELINES

Southern Pacific Pipe Lines, Inc.

<u>Line Designation</u>	<u>Line Size</u>	<u>Capacity BPD</u>	<u>Present Thruput BPD</u>
8 Richmond to Concord	8"	50,400	18,500
9 Concord to Stockton to Roseville	10"	57,600	35,400
16 Concord to San Jose	10"	52,800	41,100
25 Concord to Sacramento	14"	88,800	55,200
36 Richmond to Oakland	12"	72,000	35,700
37 Amorcio to Richmond	12"	72,000	4,100
39 Brisbane to San Francisco International Airport	8"	25,200	1,800
41 Oakland to Brisbane	10"	62,400	20,600
42 Oakland to Brisbane	12"	72,000	32,700
46 Richmond to Oakland	8"	67,200	37,900
47 Concord to Suisun City	8"	31,000	9,600
62 Stockton to Atwater	8"	15,300	11,400
63 Atwater to Castle AFB	6"	25,200	11,400
38 Brisbane to San Francisco 97 International Airport	12"	72,000	32,700

Products handled:

All lines handle gasolines, kerosene, jet fuel, and diesel fuel with exception of L.S. Nos. 36, 38, 39, 42, 62, 63, and 97 which are in exclusive jet fuel service.

Standard Oil Company of California

<u>Line Designation</u>	<u>Line Size</u>	<u>Capacity BPD</u>	<u>Present Thruput BPD</u>
Crude oil from San Joaquin Valley to Richmond Refinery	18"	Approx. 100,000	50,000
Products (motor gasolines, diesel fuel, and jet fuel) from Richmond Refinery to: Avon Terminal	Various 8"-12"	Approx. 36,000	35,000
San Jose Terminal	8"	Approx. 36,000	35,000
Banta Terminal	6"	Approx. 36,000	35,000
Sacramento Terminal	8"	Approx. 36,000	35,000

TABLE 2 (Cont'd)

Shell Oil Company

<u>Line Designation</u>	<u>Line Size</u>	<u>Capacity BPD</u>	<u>Present Thruput BPD</u>
#1 Bay Area Products Line: <u>1/</u> (gasoline, diesel and turbine fuel) Refinery to San Bruno Oakland to San Jose	10" 8"	> 130,000	60,000 (1973)
#2 Crude oil from San <u>2/</u> Joaquin Valley to Martinez Refinery	1-8" 1-10" 1-12"	- - -	- - -
#3 Brentwood crude line	4"	5,000	2,000

1/ Both lines presently out of service.
Lines scheduled to return to service in 1973.

2/ Lines presently idle - to be retired.

Getty Oil Company

<u>Line Designation</u>	<u>Line Size</u>	<u>Capacity BPD</u>	<u>Present Thruput BPD</u>
Mainline from San Joaquin Valley (crude oil)	20"	150,000	110,000
Line to Shell Refinery at Martinez (crude oil)	20"	150,000	60,000
Crude Oil from San Joaquin Valley to Shell Martinez Refinery (leased to Shell)	8"	20,000	1,500
SA-1 Line <u>1/</u> (Pacheco southward)	10"	-	Inactive
C-2 Line - San Joaquin Valley to Shell Martinez Refinery	8"	-	Inactive

1/ Scheduled for abandonment or sale.

2/ Scheduled for abandonment.

TABLE 2 (Cont'd)

Union Oil Company of California

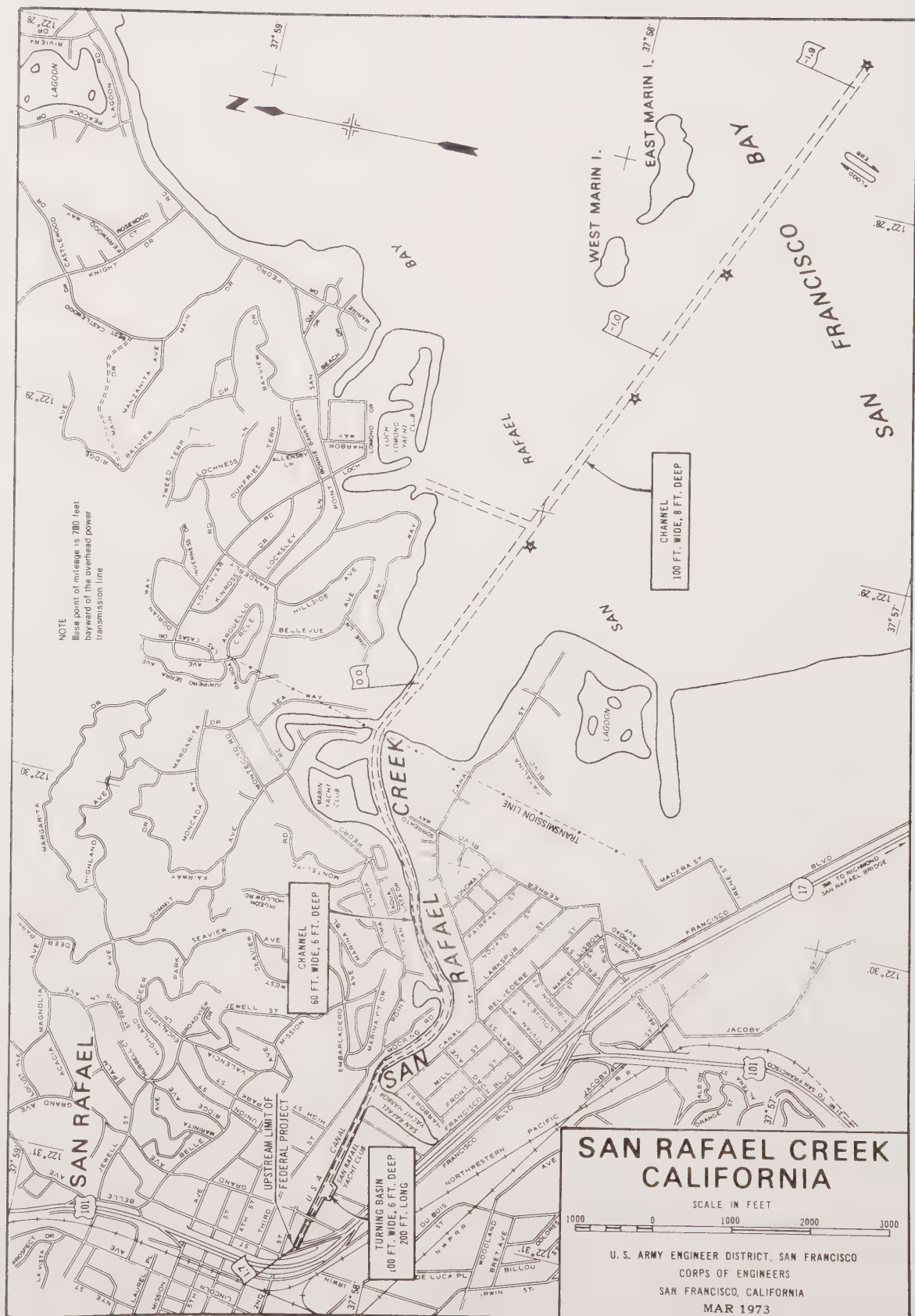
<u>Line Designation</u>	<u>Line Size</u>	<u>Capacity BPD</u>	<u>Present Thruput BPD</u>
Crude oil from San Joaquin Valley to Union Refinery	16"	78,000	58,500
Union Refinery to Richmond distribution terminal (refined products)	6"	26,000	6,500

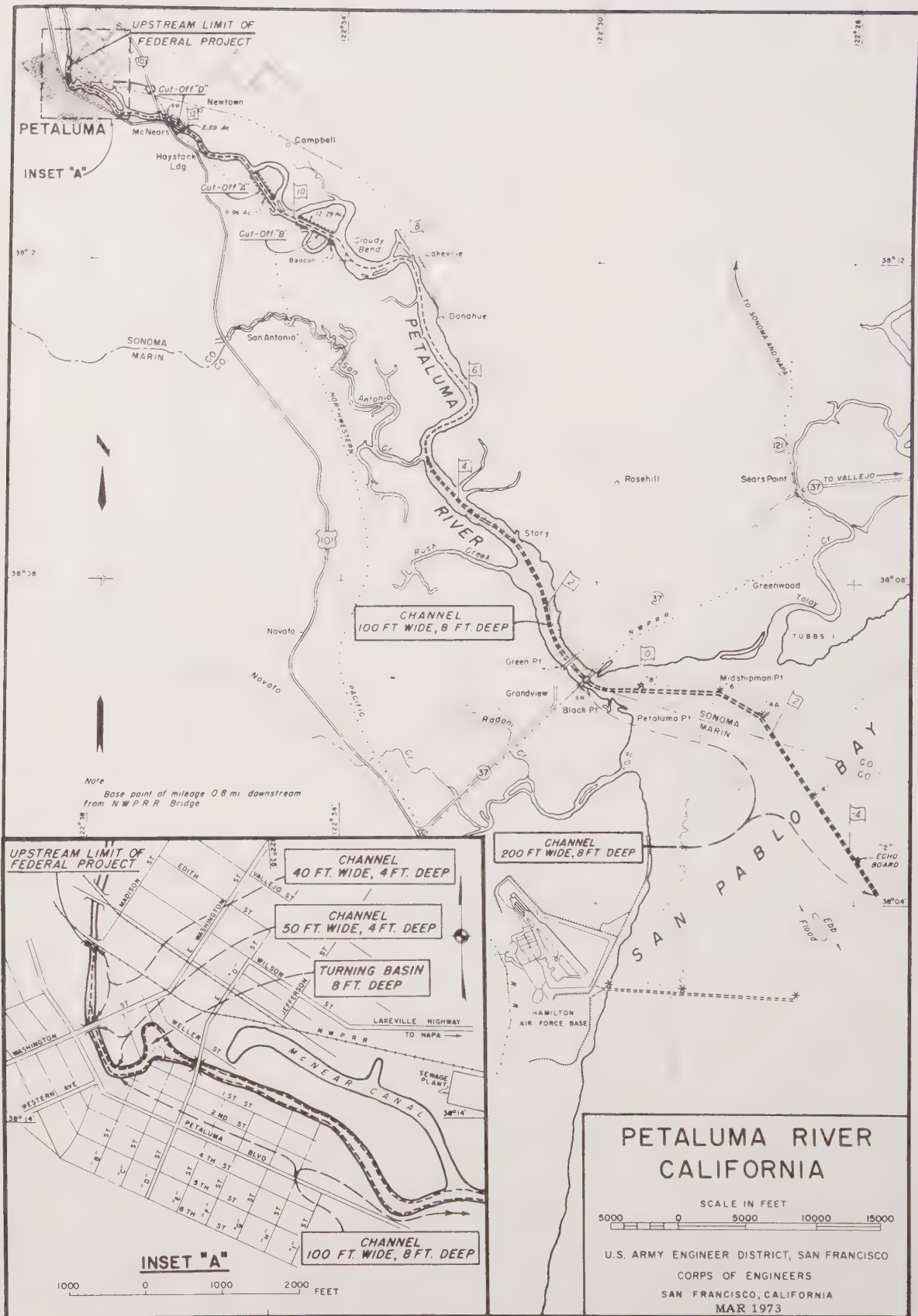
Exxon Pipe Line Company

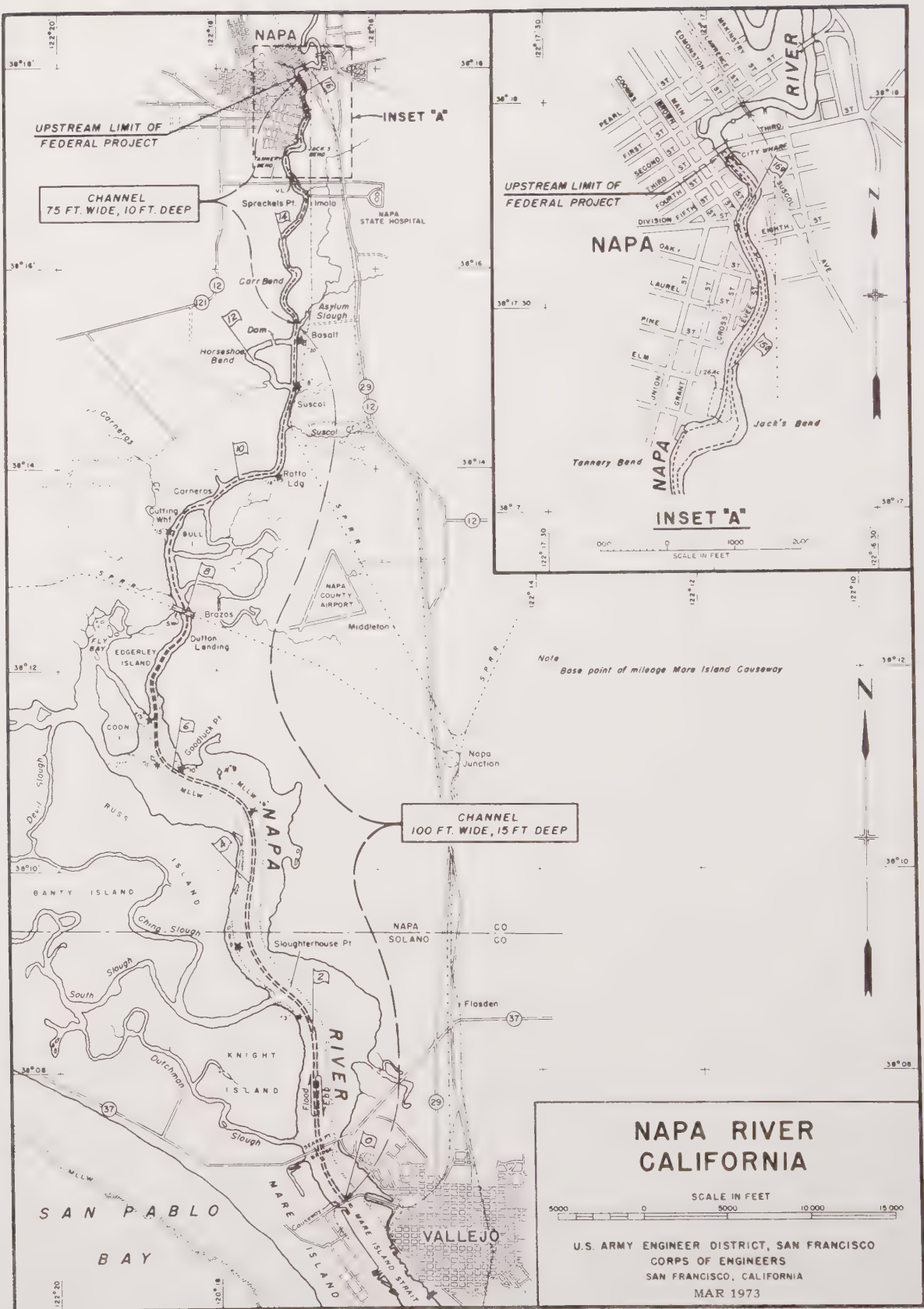
<u>Line Designation</u>	<u>Line Size</u>	<u>Capacity BPD</u>	<u>Present Thruput BPD</u>
Carquinez Strait lines linking Humble Benicia Refinery with Getty Line	1-20" 1-6"	80,000 (crude oil) Used to intermittently displace crude oils from 20-inch line.	15,000
Benicia Refinery to Concord (S.P. No. 47)	1-8"	72,000 (product)	45,000
Benicia Refinery to Brisbane (refinery to Amorco)	1-8"	72,000 (product)	20,000
(S.P. No. 37, S.P. No. 36, S.P. No. 41, S.P. No. 42) Amorco to Brisbane			

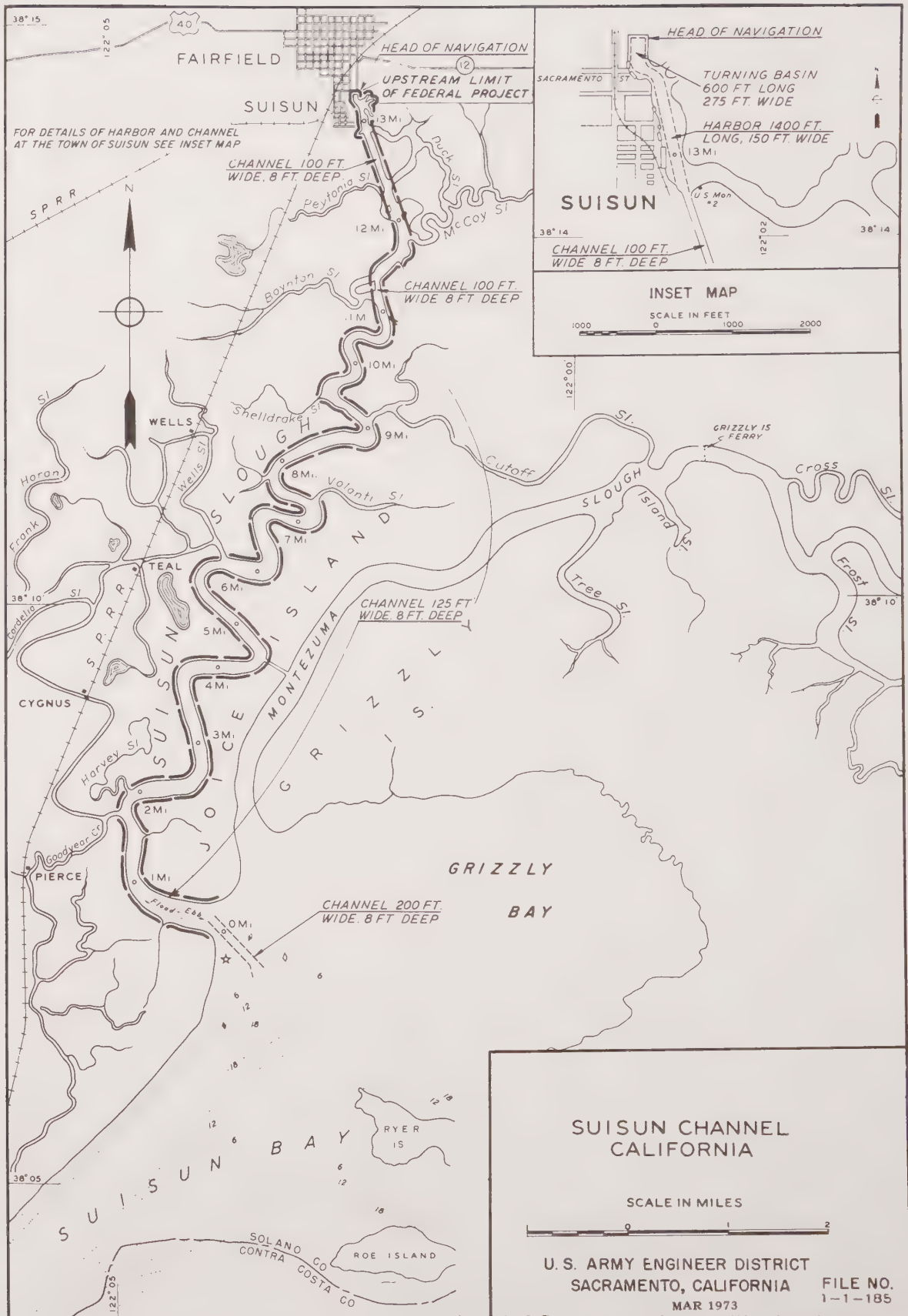
Atlantic Richfield Company

<u>Line Designation</u>	<u>Line Size</u>	<u>Capacity BPW</u>	<u>Present Thruput BPW</u>
Line Section 74 (from Southern Pacific Pipe Lines, Inc., system to Richmond Terminal) - transports gasoline.	8" inbound	-	35,000
Line Section 71 (from Richmond Terminal to Southern Pacific Pipe Lines, Inc., system) - transports diesel fuel.	8" outbound	-	45,000









SEE INSET MAP
FOR CONTINUATION

CHANNEL DEPTH
5 FEET AT LOW WATER
UP TO CHICO LANDING

CHANNEL DEPTHS
AS PRACTICABLE
CHICO LANDING
TO RED BLUFF.

CHANNEL DEPTH
6 FEET AT LOW WATER
UP TO COLUSA

HARBOR AND
TURNING BASIN
30 FT. DEEP

SHIP CHANNEL
30 FT. DEEP

CHANNEL 10 FEET DEEP
150-200 FT. WIDE AT M.L.L.W.
UP TO SACRAMENTO

LOCK, IN CONNECTING BARGE
CANAL 13 FT. DEEP

LEGEND

Work remaining to be completed.

SACRAMENTO RIVER
CALIFORNIA
SHALLOW DRAFT CHANNEL

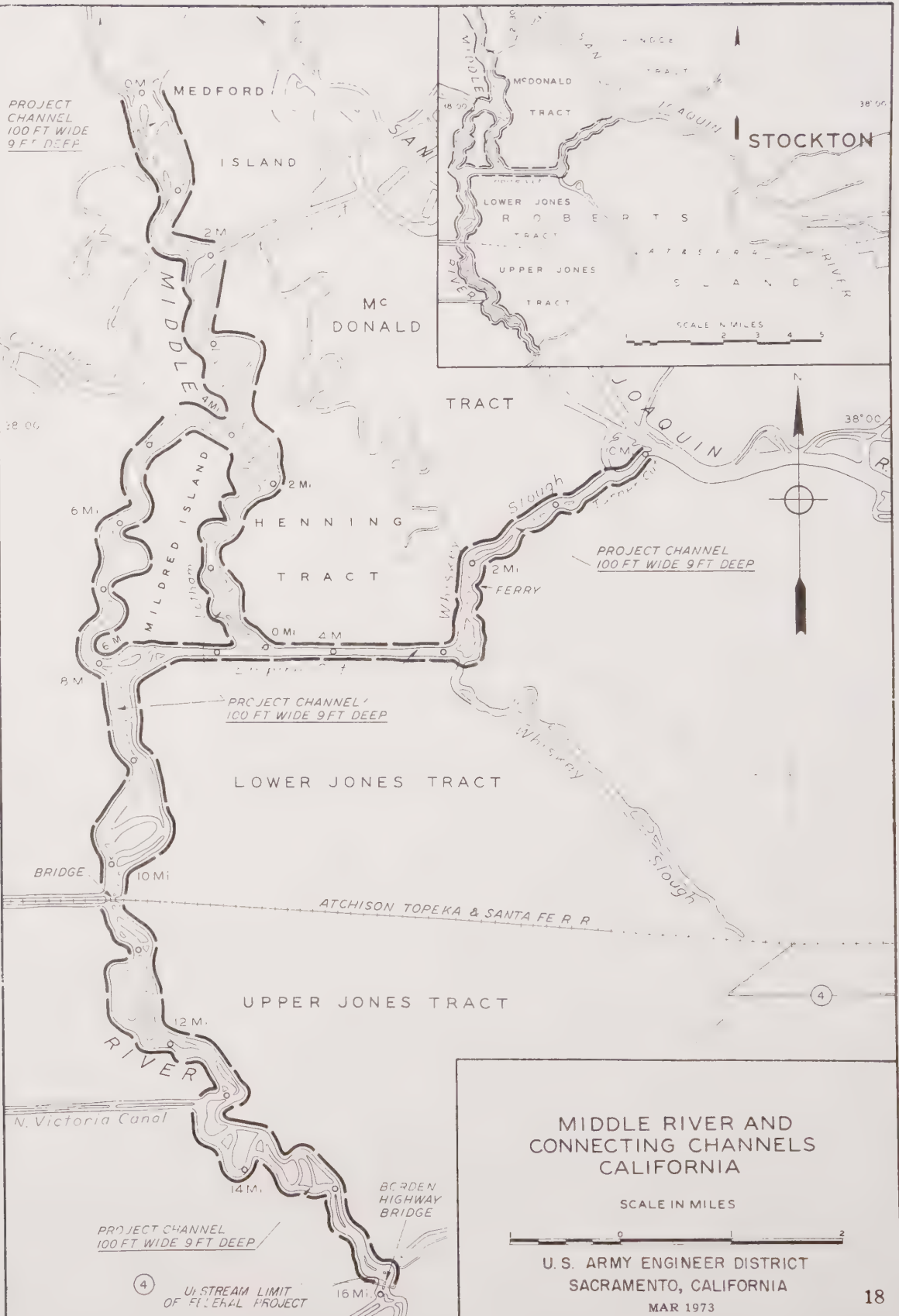
SCALE IN MILES

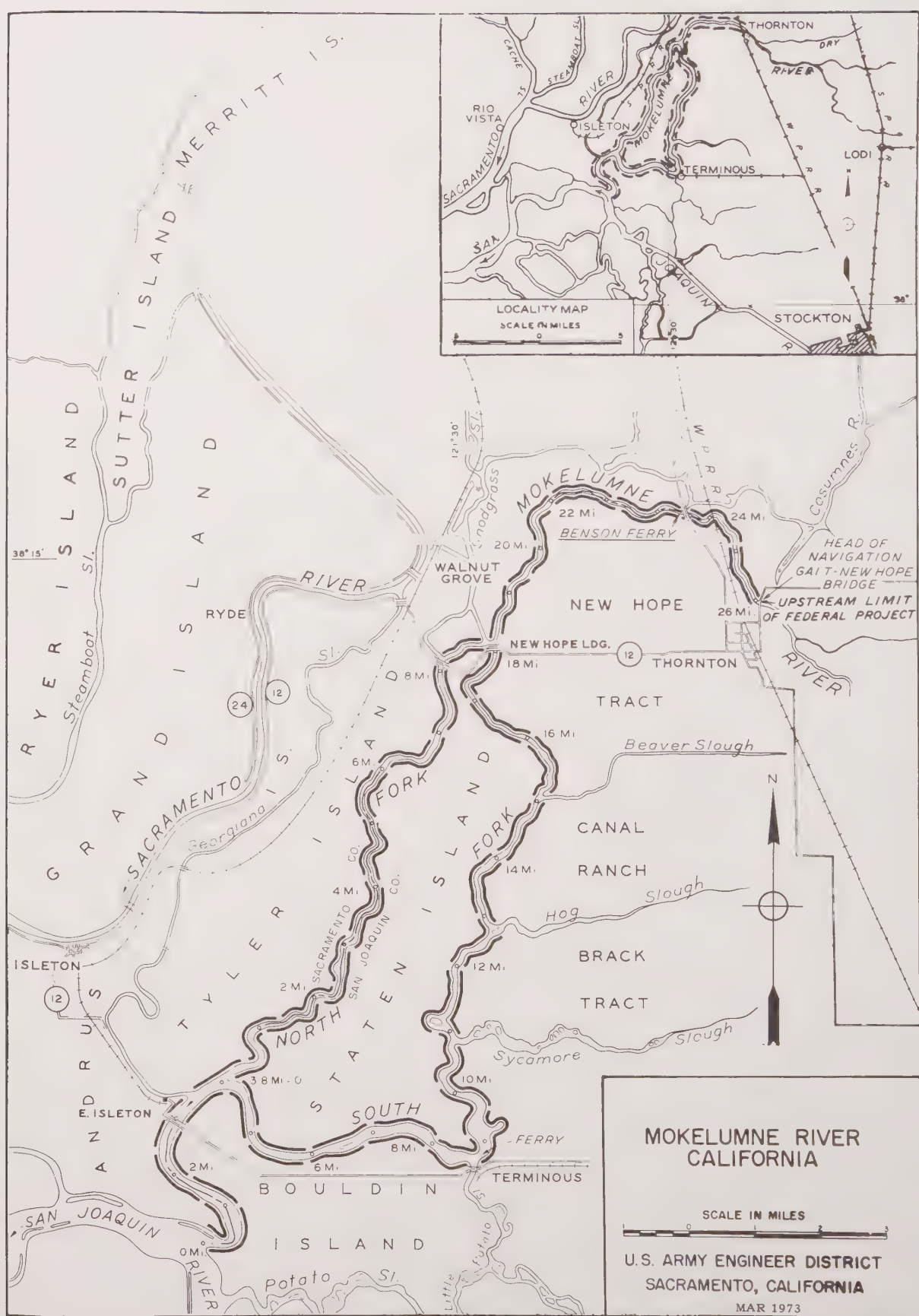
U. S. ARMY ENGINEER DISTRICT
SACRAMENTO, CALIFORNIA

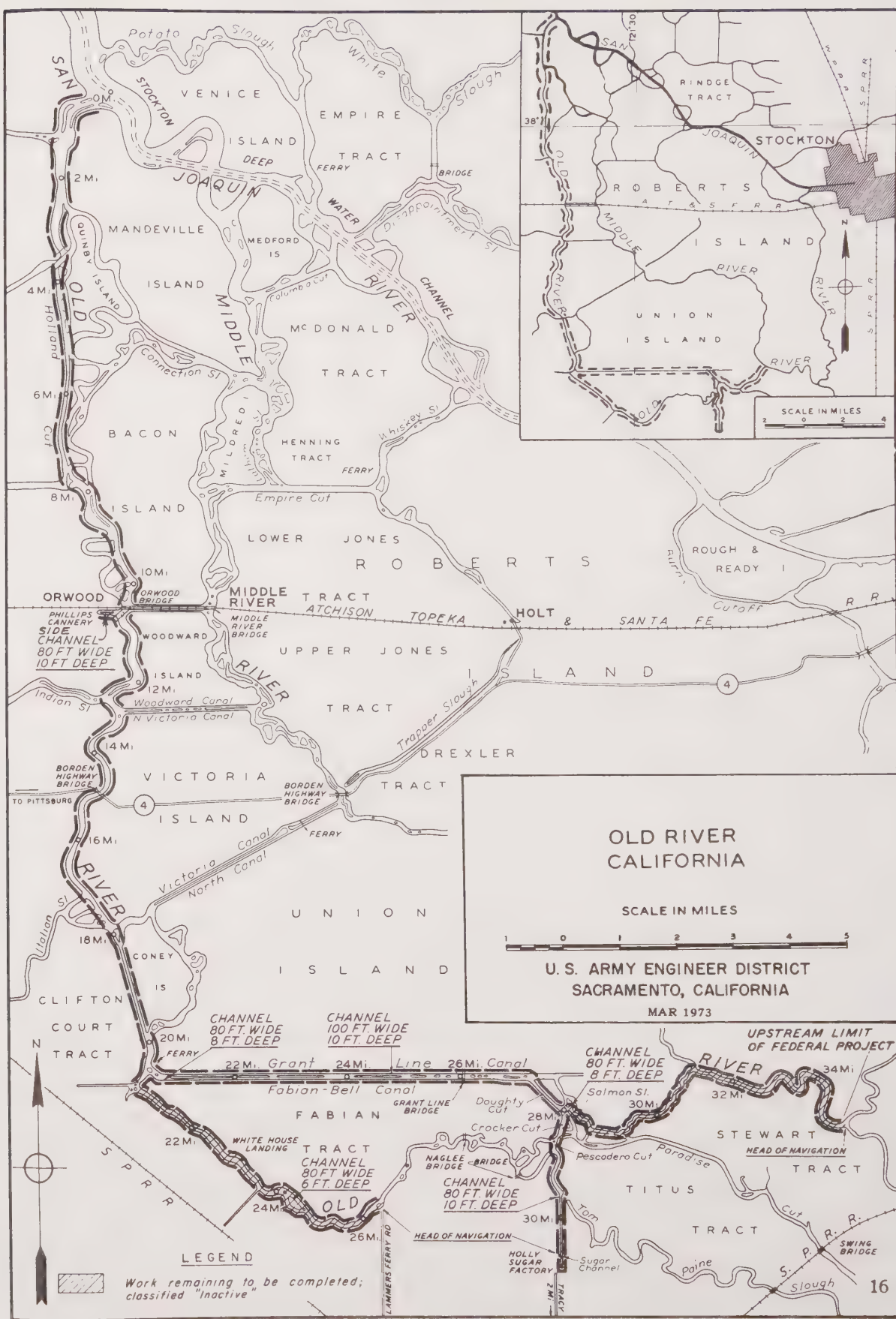
MAR 1973

FILE NO.
1-1-185

PLATE 6







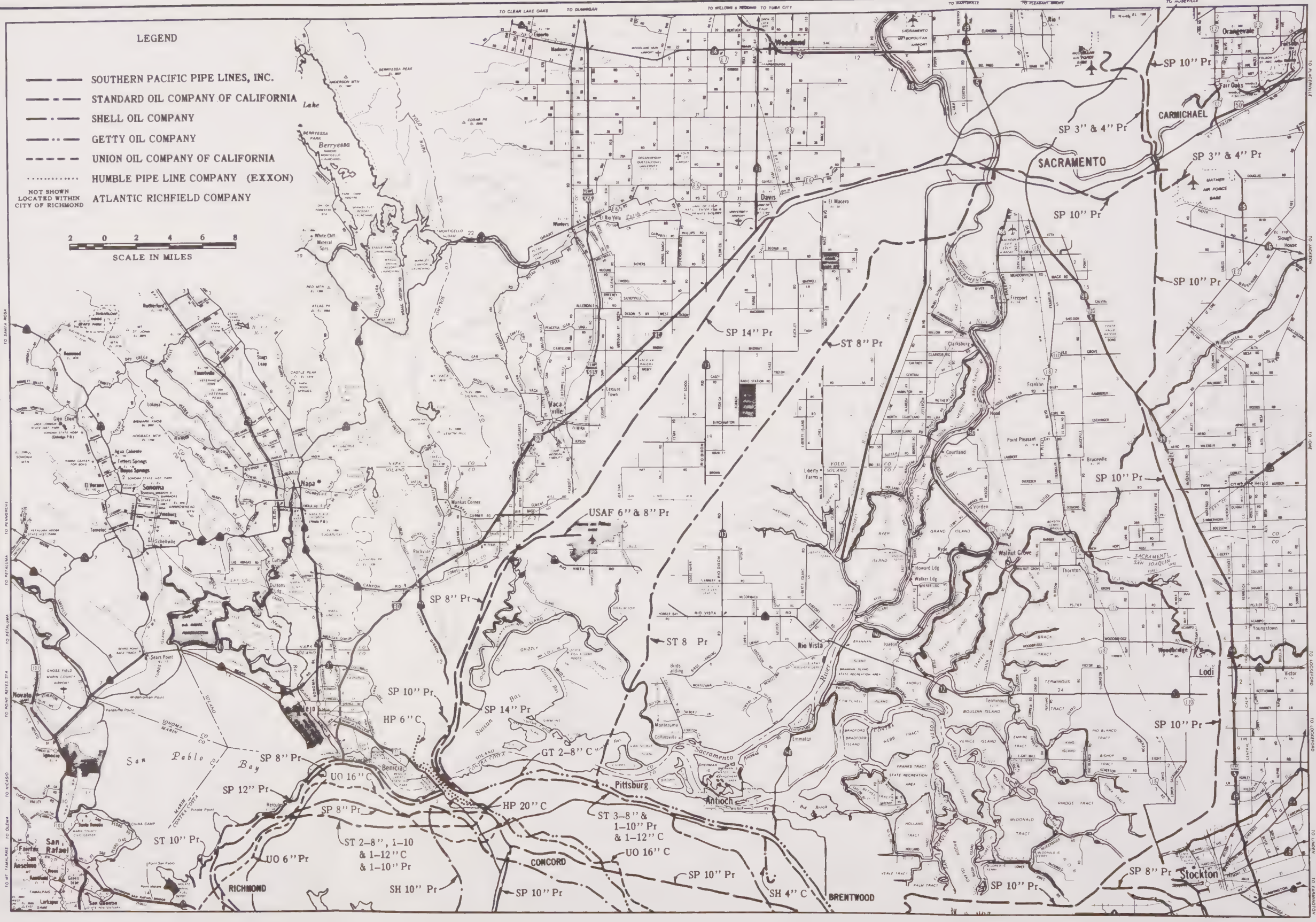


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**SAN FRANCISCO BAY AREA IN-DEPTH STUDY
CALIFORNIA
PORT FACILITIES INVENTORY
PIPELINES SERVING THE
SAN FRANCISCO BAY REGION**

IN SHEET
U.S. ARMY ENGINEER DIST., SAN FRANCISCO, C OF E
DRAWN:
TRACED:
CHECKED:

SHEET NO.
FILE NO.
TO ACCOMPANY REPORT
DATED MARCH 1973



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CHANNEL, PORT AND
RELATED FACILITIES INVENTORIES

8. INTRODUCTION

The format of this section of the report is structured to provide for each of the ports and major terminal facilities in the San Francisco Bay Region the following information: a narrative description for each port; the inventory information for the facilities at each port, including railroad facilities; and a description and map of the existing and planned channels serving each port. The port facilities information is presented in three categories - existing, planned and potential. Planned facilities are defined as those facilities now in the definitive planning stage which may be constructed within the next three to five years. Potential facilities are as the name implies, rather indefinite at this time, but still constitute a known developmental probability. Ports included in the inventory are arranged in the following order: San Francisco; Redwood City; Oakland; Alameda; Richmond; San Pablo Bay, Carquinez Strait, and Mare Island Strait; Western Delta; Sacramento; and Stockton.

9. PORT OF SAN FRANCISCO

a. Existing port facilities.

(1) San Francisco is located on the northern portion of a peninsula which separates the southern part of San Francisco Bay from the Pacific Ocean; the city covers the width of the peninsula. The principal waterfront facilities of the port extend from Black Point on the north side around to India Basin on the east side of the peninsula, a distance of nearly 6-1/2 miles.

(2) Eighty-five piers, wharves and docks are described in this report for the Port of San Francisco. Included are the facilities located along the sides of China Basin, Channel Street, the Islais Channel, and the Central and India Basins. Each of these eighty-five facilities is described in detail under a reference number in the table "Piers, Wharves, and Docks" on the following pages. The reference number assigned to each facility is used to designate its location on Plate 13.

(3) San Francisco is primarily a general cargo port, but does have facilities for containerized and bulk cargo and is the only passenger port in the region. Special terminals handle imported automobiles, bulk liquids, newsprint, grain, cotton and copra. All deep-water piers are served by railroad spurs and accommodate vessels of 35-foot to 40-foot draft.

(4) Pier 27 was extensively redeveloped in 1967 to accommodate semi-containership operations of Pacific-Far East Lines. The 11-acre Pier 27 is coupled with Pier 29 to provide an integrated facility of transit sheds container storage area and wharf space. A major new facility at the Port of San Francisco is the Pier 80 complex, a 68-acre facility located on the north side of Islais Creek. This facility contains one million square feet of covered cargo storage space and storage area for 8,000 containers. The two major tenants at this terminal are American President Lines and States Steamship Company. The newest terminal facility in San Francisco is the Pier 96 LASH (Lighter-Aboard-Ship-Handling) Terminal operated by Pacific-Far East Lines. This development includes a 10-acre storage space for containers, an 11-acre water basin for handling and loading lighters, a 200,000-square-foot transit shed and two large berths with prestressed concrete wharves.

b. Planned and potential port facilities. The Port Commission of the city and county of San Francisco is responsible for the planning and development of nearly the entire city waterfront. The plans of the Commission are shown on Plate 14 and described as follows:



Port of San Francisco, Pier 17. Much of San Francisco's general cargo trade is handled at finger piers on the northern waterfront.



Port of San Francisco - Pier 50.



Port of San Francisco, Islais Creek Channel. At the right is the Army Street Terminal, and at the left is the Pier 90 Grain Terminal and the site of the future Pier 94 development.

(1) Planned Facilities.

(a) In November 1971 the voters of San Francisco passed a bond issue to develop the area between the LASH Terminal and the Islais Creek Channel at Pier 94 as a container, break bulk, bulk terminal and other maritime use facility which will add four new ship berths.

(b) At the southern end of the port's property, the port plans to fill much of India Basin, about 48 acres, to provide for a two-berth facility known as Pier 98. This India Basin Terminal will be used primarily for container, roll on/roll off, break bulk and related traffic. A possible third berth would be added later.

(c) Some development has already begun in the area eastward and immediately southward of the Ferry Building. This area is planned for port support development such as garages, restaurants, commuter ferry slips, and similar facilities.

(d) The port has general plans for modernizing and improving much of the remaining waterfront areas. Islais Creek Channel, west of the Third Street Bridge, would be developed for the loading and storage of LASH and ocean barges. The same type of development is proposed for the Channel Street area west of Fourth Street.

(2) Potential Facilities.

(a) The proposed Pier 72 would consist of about 49 acres of filled land in addition to about 33 acres of existing land. This area would probably be developed as a container facility, consisting of four or five berths. The area from the existing Pier 66 up to the existing Pier 48 would also be modernized to better serve the port and industry. The existing structures would be redesigned, rebuilt, and possibly consolidated. The port intends also to reserve the area from Pier 46-A to Pier 34 for maritime, port support, and industrial uses. A new pier configuration also is seen for this area.

(b) The port expects that the waterfront area from Harrison Street to Mission Street and Piers 1-7 will be used more and more for commercial development. Commercial development is also seen for the Pier 37-39 area. Pier 45 will also be retired from maritime use.

(c) Commercial development is also seen for the area around Fisherman's Wharf. The development contemplated for this area would be centered around the fishing business and the tourist trade. It would also compliment the adjacent State Maritime Historic Park.

c. Railroad service.

(1) The Port of San Francisco is served directly by three line-haul railroads and one switching line. The Southern Pacific Company (Southern Pacific Lines) is the only rail line entering the city by a land route; the Atchison, Topeka and Santa Fe Railway and the Western Pacific Railroad gain access to San Francisco by operating car-ferry service across the bay from Richmond and Oakland-Alameda, California, respectively. In addition, the Northwestern Pacific Railroad serves the San Francisco Bay Area by interchanging with the Southern Pacific Company at Schellville, California.

(2) The San Francisco Belt Railroad is a switching line which serves nearly all of San Francisco's deep-draft, waterfront terminals and the industries and warehouses adjacent to the waterfront. Interchange connections are made by this line with the three line-haul railroads serving the port.

(3) Locations at which waterfront facilities have switching service, other than that provided by the San Francisco Belt Railroad, are: south side of China Basin - Atchison, Topeka and Santa Fe Railway; both sides of Channel Street Waterway - Southern Pacific Company; shipyard plant of the Bethlehem Steel Company - jointly by Southern Pacific Company and Atchison, Topeka and Santa Fe Railway; and north side of Islais Creek Channel - Western Pacific Railroad.

(4) The following tabulation gives the name, car capacity, and owning railroad of each of the rail yards in the port area; these yards are located on the accompanying Port Facilities Map (Plate 13) under the same lettered reference as shown in the tabulation.

Ref. on Map	Railroad and Yard	Normal Operating Capacity (cars)
<u>Atchison, Topeka and Santa Fe Railway</u>		
H	Illinois Street Yard	235
I	China Basin Yard	355
<u>San Francisco Belt Railroad</u>		
A	Powell Street	106
D	Main Street	57
F	Channel Street	31
B	Lombard Street (Rented to Atchison, Topeka and Santa Fe Railway)	63
C	Spear Yard (Rented to Atchison, Topeka and Santa Fe Railway)	46
E	Brannan Street (Rented to Western Pacific Railroad Company)	36
J	Islais Creek Yard (Served by Southern Pacific Co.)	100



Port of San Francisco, LASH Terminal. San Francisco's newest facility, Pier 96, handles lighters, containers and general cargo.

Ref. on Map	Railroad and Yard	Normal Operating Capacity (cars)
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Southern Pacific Company

G	Mission Bay Classification Yard (1)	450
L	Bayshore Classification Yard (2)	1,200
M	South San Francisco Classification Yard (3)	200

Western Pacific Railroad

K	Army and 25th Streets (4)	250
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-
- (1) Total Capacity 2,380.
(2) Total Capacity 3,092.
(3) Total Capacity 348.
(4) Total Capacity 300.

d. Existing and planned channels.

(1) The existing project, shown on Plate 15, provides for dredging a channel 2,000 feet wide, 55 feet deep, through San Francisco Bar; the removal to a depth of 40 feet of Presidio and Black Point Shoals, Blossom Rock, Rincon Reef Rocks, and Alcatraz Shoal to within 2,500 feet of Alcatraz Light; the removal to a depth of 35 feet of Arch Rock, Harding Rock, Shag Rocks 1 and 2, and Point Knox Shoal westward of a north-south line through Point Stuart Light; and approach area to Islais Creek, 35 feet deep; and a channel 750 feet wide, 10 feet deep, to San Francisco Airport ending in a basin approximately 2,000 feet wide and 10 feet deep.

(2) All of the authorized project except the San Francisco Bar Channel to a depth of 55 feet was completed in 1959 and is under maintenance. Deepening the San Francisco Bar Channel from 50 to 55 feet was completed in 1959 and is under maintenance. Deepening the San Francisco Bar Channel from 50 to 55 feet is in progress and should be completed in 1973.

(3) A study of the Islais Creek area is now in progress under the authority of Section 107 of the 1960 River and Harbor Act, as amended, to determine if the existing approach area should be modified.

LIST OF PIERS, WHARVES, AND DOCKS AT SAN FRANCISCO, CALIFORNIA

Ref.	Facilities	Page
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5	Hyde Street Pier	25
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10	Pier No. 47A	30
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13	Pier No. 45, Shed B and D	33
14	Pier No. 45, Shed A and C	34
15	Pier No. 43-1/2	35
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17	Pier No. 43	37
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20	Pier No. 37	40
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25	Pier No. 23	45
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29	Pier No. 7	49
30	Pier No. 5	50
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34	Pier No. 16	54
35	Pier No. 18	55
36	Pier No. 20	56
37	Pier No. 22	57
38	Pier No. 24	58
39	Pier No. 26	59
40	Pier No. 28	60

LIST OF PIERS, WHARVES, AND DOCKS AT SAN FRANCISCO, CALIFORNIA
(Continued)

Ref	Facilities	Page
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82	Pier 96 Lash Terminal	102
83	Anderson and Cristofani North Pier	103
84	Anderson and Cristofani South Pier	104
85	Pier 98 (Future).	105

PIERS, WHARVES, AND DOCKS

Reference Number on Map	1		
Name	Fort Mason Wharf No. 1		
Location on Waterfront	Foot of Laguna Street		
Owned by	U. S. Maritime Administration		
Operated by	U. S. Maritime Administration		
Purpose for which Used	Warehouse		
Type of Construction			
Description	Face	End	
Dimensions	427'	59' 6"	
Depth Alongside at MLLW	32'		
Usable Berthing Space	500'		
Width of Apron	14'		
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)	2 Floors		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	Belt Railroad: One surface track on apron.		
Highway Connections	Via Laguna Street		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks	Not used for navigation - severe surge problems.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	2		
Name	Fort Mason Wharf No. 2		
Location on Waterfront	Near Foot of Laguna Street at Fort Mason		
Owned by	U. S. Maritime Administration		
Operated by	U. S. Assay Office		
Purpose for which Used	Warehouse		
Type of Construction			
Description	Face	End	
Dimensions	576' 5"	93'	
Depth Alongside at MLLW	32'		
Usable Berthing Space			
Width of Apron	11' 6"		
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)	3 Floors		
Cargo Type (Bulk, Container, Etc.)	General Cargo		
Number and Type of Construction			
Length and Width (Feet)	576' X 93'		
Height Inside (Feet)	30'		
Floor Area for Cargo (Sq. Ft.)	32,439		
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	For office space on 2nd floor.		
Railway Connections	Belt Railroad: 2 surface tracks.		
Highway Connections	Via Laguna Street		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks	Not used for navigation - severe surge problems.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	3		
Name	Fort Mason Wharf No. 3		
Location on Waterfront	Foot of Laguna Street		
Owned by	U. S. Maritime Administration		
Operated by	General Services Administration		
Purpose for which Used	See Remarks		
Type of Construction	Concrete deck		
Description	Face	End	
Dimensions	655	155	
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	Warehouse - 2 Floors		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	Belt Railroad: Two surface tracks on aprons.		
Highway Connections	Via Laguna Street		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks	Used occasionally under lease from GSA. Last use was for import of automobiles.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	4		
Name	Fort Mason Wharf No. 4.		
Location on Waterfront	Foot of Van Ness Avenue.		
Owned by	U.S. Maritime Administration		
Operated by	Not operated		
Purpose for which Used	Occasionally used for mooring small craft.		
Type of Construction	Concrete pile, concrete-decked. Offshore wharf with 200-by 20-foot approach to lower end.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	150	50	50
Depth Alongside at MLLW	18	18	18
Usable Berthing Space	150	50	See Remarks
Width of Apron	open		
Height of Deck above MLLW	10		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 6-inch line with 1-1/2-inch hose connection (water)		
Railway Connections	None		
Highway Connections	Via Van Ness Avenue (access) asphalt, 50-feet wide from Lombard Street (arterial - U.S. Hwy. No. 101)		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Hydrants and hose		
Remarks	Float for small boats on upper side.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	5		
Name	Hyde Street Pier		
Location on Waterfront	Foot of Hyde Street		
Owned by	San Francisco Port Commission		
Operated by	State of California		
Purpose for which Used	Maritime State Historical Monument		
Type of Construction	Timber pile, timber deck Constructed in 1927.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	-	320	280
Depth Alongside at MLLW		22 - 0	22
Usable Berthing Space	-	320	280
Width of Apron	open		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Partly lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	4" main water line.		
Railway Connections	None		
Highway Connections	Via Jefferson Street, Asphalt, 38 feet wide, from the Embarcadero (arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None		
Remarks	Barricade across inner end of pier.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	6		
Name	Golden Gate Ferry Slips Nos. 1, 2 and 3. Part of the Hyde Street Pier.		
Location on Waterfront	Foot of Hyde Street		
Owned by	San Francisco Port Commission		
Operated by	Mobil Oil Company, Division of Socony Mobil Oil Company, Inc., and various other operators.		
Purpose for which Used	Receipt of fish; fueling small vessels		
Type of Construction	Timber pile, with asphalt-paved, timber deck		
Description	Face (feet)	Upper Side (feet)	
Dimensions	Ferry Slips	390	
Depth Alongside at MLLW	-	22	
Usable Berthing Space	-	390	
Width of Apron	-	Open	
Height of Deck above MLLW		12	
Load Capacity per Sq. Ft. (Lbs.)		-	
Lighted or Unlighted		Lighted	
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	One 3-inch pipeline, for fueling purposes, extends from upper side to 2 storage tanks.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	None		
Highway Connections	Via Jefferson Street, asphalt, 38 feet wide, from the Embarcadero (arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Two monitor nozzles, one at outer end of each ferry rack; one 2-1/2-inch hose connection and one 40-gal. foam cart.		
Remarks	Ferryboats no longer operate from this facility.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	7		
Name	Mobil Oil Company Wharf		
Location on Waterfront	West side of boat basin (Wharves J-7, 8, 9 & 10) located between foot of Hyde and foot of Jones Streets.		
Owned by	San Francisco Port Commission		
Operated by	Mobil Oil Company, Division of Socony Mobil Oil Company, Inc.		
Purpose for which Used	Fueling small vessels.		
Type of Construction	Timber pile, timber deck.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	11	63	44 + 28
Depth Alongside at MLLW	10	10	10
Usable Berthing Space	11	50	44
Width of Apron	20	5 and Open	10
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	300		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	One 4-, one 3- and one 2-inch pipelines extend from metered pumps on wharf to 2 steel storage tanks.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	4" main with 2" branches (water). 4" sewer line.		
Railway Connections	None		
Highway Connections	Via Jefferson Street, asphalt 38 feet wide, from the Embarcadero (arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Hand extinguishers at pier and foam generator at tanks.		
Remarks	A small building for storage and office space is located on wharf.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user	Tanks	
		Number	Capacity (barrels)
7	Mobil Oil Company, Division of Socony- Mobil Oil Company, Inc.	2	6,200
Total		2	6,200

PIERS, WHARVES, AND DOCKS

Reference Number on Map	8		
Name	Standard Oil Company Wharf		
Location on Waterfront	West side of boat basin (Wharves J-7, 8, 9, & 10) located between foot of Hyde and foot of Jones Streets.		
Owned by	San Francisco Port Commission		
Operated by	Standard Oil Company of California		
Purpose for which Used	Fueling small vessels		
Type of Construction	Timber pile, timber deck.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	20	58	58
Depth Alongside at MLLW	10	10	10
Usable Berthing Space	20	35	35
Width of Apron	4	4	4
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	300		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	Two 3- and five 2-inch pipelines extend from metered pumps on pier to 5 underground storage tanks.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	2" water line. 4" sewer line.		
Railway Connections	None		
Highway Connections	Via Jefferson Street, asphalt, 38 feet wide, from the Embarcadero (arterial), asphalt, 50-70 feet wide		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Hand extinguishers		
Remarks	Two small buildings on wharf used for storage and office space.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user	Tanks	
		Number	Capacity (barrels)
8	Standard Oil Company of California	5	188
Total		5	188

PIERS, WHARVES, AND DOCKS

Reference Number on Map	9		
Name	Wharves J-7, J-8, J-9, and J-10		
Location on Waterfront	Between foot of Hyde and foot of Jones Streets.		
Owned by	San Francisco Port Commission		
Operated by	Various fish companies		
Purpose for which Used	Receipt of fish; mooring fishing vessels.		
Type of Construction	Boat basin formed by timber pile, timber-decked wharves. Constructed in 1919 ⁺		
Description	South Side of Basin (feet)	East Side of Basin (feet)	North Side of Basin (feet)
Dimensions	43 + 319	90	274 + 301
Depth Alongside at MLLW	8	8	8
Usable Berthing Space	43 + 319	90	274 + 301
Width of Apron	10 - 30	Open	Open
Height of Deck above MLLW	2		
Load Capacity per Sq. Ft. (Lbs.)	300		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Eight electrically operated mast and boom derricks.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	None		
Highway Connections	Via Jefferson Street, asphalt, 38 feet wide, from Embarcadero (arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None 40-gallon, soda-acid cart.		
Remarks	Buildings on south and north sides of boat basin used by numerous fish-receiving companies.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	10		
Name	Pier No. 47A		
Location on Waterfront	Foot of Jones Street		
Owned by	San Francisco Port Commission		
Operated by	Various fish companies		
Purpose for which Used	Receipt of fish; mooring fishing vessels		
Type of Construction	Timber pile, with asphalt-paved timber deck parallel to and 174 feet from connection of Pier 47B with main pier.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	24	533	608
Depth Alongside at MLLW	20	20	20
Usable Berthing Space	-	533	608
Width of Apron	Open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	200		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)	0.36		
Surfacing Type	Asphalt paved		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Electric hoist and derrick.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	2" water main		
Railway Connections	None		
Highway Connections	Via Jefferson Street, asphalt, 38 feet wide from the Embarcadero (arterial), asphalt, 50-70 feet wide		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None		
Remarks			

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	11		
Name	Pier No. 47B		
Location on Waterfront	Foot of Jones Street		
Owned by	San Francisco Port Commission		
Operated by	do		
Purpose for which Used	Mooring fishing vessels.		
Type of Construction	Timber pile, with asphalt-paved timber deck extends at angle 280 feet from outer end of main pier.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	14	281	336
Depth Alongside at MLLW	20	20	20
Usable Berthing Space	-	281	336
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	300		
Lighted or Unlighted	lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)	~ 0.10		
Surfacing Type	Asphalt paved		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Electric hoist and derrick.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	2" water main.		
Railway Connections	None		
Highway Connections	via Jefferson Street, asphalt, 38 feet wide, from the Embarcadero (arterial), asphalt, 50-70 feet wide		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	12		
Name	Fisherman's Wharf (Nos. J-1, J-3, J-4, J-5 & J-6).		
Location on Waterfront	Between foot of Jones and foot of Taylor Streets.		
Owned by	San Francisco Port Commission		
Operated by	Various fish companies		
Purpose for which Used	Receipt of fish; mooring fishing vessels.		
Type of Construction	Boat basin formed by timber pile, timber-decked wharves except Wharf J-1 which is in reinforced concrete Constructed in 1919 ±		
Description	East Side (feet)	North Side (feet)	South Side (feet)
Dimensions	54 + 128	373	300
Depth Alongside at MLLW	8	8	8
Usable Berthing Space	54 + 128	373	300
Width of Apron	15	10 and 30	Open
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	200		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	None		
Highway Connections	Via Jefferson Street, asphalt, 38 feet wide, from the Embarcadero (arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	At J-4 only: AC 120 V. single Phase, 60-cycle None at other wharves.		
Fire Protection (Other than City)	None		
Remarks	Wharf J-4 spans the basin nearly parallel with south side and provides an additional 640 feet of berthing space. Five small marine skidways located at west side of inner basin, and 140 feet of berthing space with 8-foot depth of water is located on west side of outer basin entrance, which is approach to Piers Nos. 47A & 47B.		

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	13		
Name	Pier No. 45, Shed B and D		
Location on Waterfront	Western end of the Embarcadero at foot of Taylor Street.		
Owned by	San Francisco Port Commission		
Operated by	Crown Zellerbach		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete pile, concrete deck; depressed section along rear of transit sheds consists of concrete piles driven through solid fill with concrete deck. Constructed in 1927.		
Description	Face (feet)	Lower Side (feet)	
Dimensions	140	1,200	
Depth Alongside at MLLW	35	35	
Usable Berthing Space	140	1,200	
Width of Apron	12	29	
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	Shed B	Shed D	
Cargo Type (Bulk, Container, Etc.)	Importing newsprint and pulp		
Number and Type of Construction	2-steel frame, reinforced concrete walls, concrete floors.		
Length and Width (Feet)	579 by 123	615 by 83 - 123	
Height Inside (Feet)	18	17	
Floor Area for Cargo (Sq. Ft.)	71,200		
Load Capacity per Sq.Ft. (Lbs.)	500		
Cargo Doors	Shipside: eleven 16 by 12 feet; fourteen 16 by 15 feet; (see remarks)		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through one 4-inch line with 6-3" outlets (water). 4" sewer line.		
Railway Connections	San Francisco Belt Railroad: two surface tracks on apron, total length 1,900 feet; one 1,300-foot, platform - level track along rear of transit sheds.		
Highway Connections	Via the Embarcadero, asphalt, 50-70 feet wide. (See remarks)		
Electric Current (Available to Vessels)	A.C., 120/208 V. three-phase, 60-cycle: A.C. 480 V, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Hand extinguishers and 18-inch suction manholes.		
Remarks	The Embarcadero is a marginal and arterial street extending from Fisherman's Wharf to China Basin. This thoroughfare serves most of the facilities owned by the San Francisco Port Commission. doors-other: twenty-eight 16 X 12 feet; and one 37-foot wide truck entrance door at inner end of Shed B.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map Name	14		
Location on Waterfront	Pier No. 45, Sheds A and C.		
Owned by	San Francisco Port Commission		
Operated by	Crown Zellerbach		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade		
Type of Construction	Concrete pile, concrete deck; depressed section along rear of transit sheds of concrete piles driven through solid fill with concrete deck. Constructed in 1927.		
Description	Face (feet)	Upper Side (feet)	
Dimensions	180	1,314	
Depth Alongside at MLLW	35	35	
Usable Berthing Space	180	1,314	
Width of Apron	12	29	
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)	Shed A	Shed C	
Cargo Type (Bulk, Container, Etc.)	Importing newsprint and pulp		
Number and Type of Construction	2-steel frame, reinforced concrete walls, concrete floors		
Length and Width (Feet)	583 by 123	630 by 99-123	
Height Inside (Feet)	18	17	
Floor Area for Cargo (Sq. Ft.)	71,700	69,300	
Load Capacity per Sq. Ft. (Lbs.)	500	500	
Cargo Doors	Shipside: Fourteen 16 by 12 feet, twelve 16 by 15 feet; (see remarks)		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 4-inch line with 6-3" outlets (water 4" sewer line).		
Railway Connections	Belt Railroad: two surface tracks on apron, total length 2,600 feet; one 1,150-foot, platform - level track along rear of transit sheds; and 2 surface tracks in center of pier, total length 1,750 feet.		
Highway Connections	Via the Embarcadero, asphalt, 50-70 feet wide (see remarks)		
Electric Current (Available to Vessels)	A.C., 120/208 V., 3-phase, 60-cycle; A.C., 480 V., 3-phase, 60-cycle		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manhole.		
Remarks	The Embarcadero is a marginal and arterial street extending from Fisherman's Wharf to China Basin. This thoroughfare serves most of the facilities owned by the San Francisco Port Commission Doors- Others: twenty-three 16 by 12 feet; and one 6 by 10 feet.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	15			
Name	Pier No. 43-1/2			
Location on Waterfront	Foot of Mason Street			
Owned by	San Francisco Port Commission			
Operated by	Harbor Tours, Inc.			
Purpose for which Used	Mooring sightseeing boats.			
Type of Construction	Two 80- by 20-foot, floating, steel barges, each extending from the outer end of a timber pile, timber-decked pier.			
Description	Barges (feet)	Face (feet)	Northside (feet)	Southside (feet)
Dimensions	80 by 20, each	16	27	30 + 10
Depth Alongside at MLLW	10	10	10	10
Usable Berthing Space	320, total of sides	16	27	30 + 10
Width of Apron	Open			
Height of Deck above MLLW	6			
Load Capacity per Sq. Ft. (Lbs.)	-			
Lighted or Unlighted	Lighted			
Storage Space				
Covered (Transit Sheds)	None			
Cargo Type (Bulk, Container, Etc.)				
Number and Type of Construction				
Length and Width (Feet)				
Height Inside (Feet)				
Floor Area for Cargo (Sq. Ft.)				
Load Capacity per Sq.Ft. (Lbs.)				
Cargo Doors				
Open				
Cargo Type				
Area (Acres)				
Surfacing Type				
Tank (Other than Petroleum)				
Mechanical Handling Facilities	None			
Pipelines	None			
Water Supply and Waste Treatment Facilities	None			
Railway Connections	None			
Highway Connections	Via the Embarcadero, asphalt, 50-70 feet wide. (see remarks)			
Electric Current (Available to Vessels)	None			
Fire Protection (Other than City)	Hand extinguishers			
Remarks	The Embarcadero is a marginal and arterial street extending from Fisherman's Wharf to China Basin. This thoroughfare serves most of the facilities owned by the San Francisco Port Commission			

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	16		
Name	Belt Railroad Slip No. 1		
Location on Waterfront	Foot of Mason Street		
Owned by	San Francisco Port Commission		
Operated by	San Francisco Belt Railroad		
Purpose for which Used	Transfer of railroad cars to and from car floats.		
Type of Construction	Timber ferry rack with adjustable bridge.		
Description			
Dimensions	Car float slip		
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	2" water line		
Railway Connections	Belt Railroad; three surface tracks lead to transfer bridge.		
Highway Connections	Via the Embarcadero (marginal and arterial) asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	At headhouse AC: 120/240 V. single phase, 60-cycle.		
Fire Protection (Other than City)	None		
Remarks	Car floats operate between this transfer bridge and piers, wharves, and docks at Oakland and Alameda.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	17		
Name	Pier No. 43		
Location on Waterfront	Foot of Powell Street		
Owned by	San Francisco Port Commission		
Operated by	Matson Termianals, Inc., and Standard Oil Company of California.		
Purpose for which Used	Shipment of new automobiles.		
Type of Construction	Timber pile, timber deck. Constructed in 1913 and 1919.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	106	350	297 + 262
Depth Alongside at MLLW	30	30	20
Usable Berthing Space	106	See Remarks	297 + 262
Width of Apron	Open		
Height of Deck above MLLW	10		
Load Capacity per Sq. Ft. (Lbs.)	285		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)	34,300 sq. ft.		
Surfacing Type	Asphalt paved		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 2-inch line. (water)		
Railway Connections	Tracks disconnected		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)			
Remarks	Standard Oil Company has three 8-inch and three 6-inch pipelines on pier. These pipelines are disconnected at the shoreline. Lower side of pier serves as upper side of car float slip.		

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	18		
Name	Pier No. 41		
Location on Waterfront	Foot of Stockton Street		
Owned by	San Francisco Port Commission		
Operated by			
Purpose for which Used	Berthing of naval vessels and repairing boats. (Out of service for Cargo)		
Type of Construction	Open pile, asphalt paved timber deck 169-foot, timber bulkhead wharf on lower side with water depth of 15 feet along side. Constructed in 1914.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	200	883	1,082
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	200	883	1,082
Width of Apron	13	20	20
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	275		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	1-timber frame, wood cover.		
Length and Width (Feet)	970 by 160; headhouse, 353 by 35		
Height Inside (Feet)	20		
Floor Area for Cargo (Sq. Ft.)	155,000		
Load Capacity per Sq. Ft. (Lbs.)	275		
Cargo Doors	Shipside: Forty-six 18 by 18 feet; streetside: (See Remarks)		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 6" main, 9-2-inch lines (water).		
Railway Connections	San Francisco Belt Railroad: one 1,035-foot, surface track on upper side; one 871-foot, depressed track on lower side.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C. 120/208 V., 60-cycle, 3 Phase; D.C. 120/240V.		
Fire Protection (Other than City)	18 inch suction manhole.		
Remarks	Trucks have access to interior of transit shed. Harbor Tug & Barge Co. dispatch office located in headhouse along the Embarcadero. (Cargo Doors Cont'd) one 32 foot wide and two 26 foot wide truck entrance doors.		

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	19		
Name	Pier No. 39		
Location on Waterfront	Foot of Grant Avenue		
Owned by	San Francisco Port Commission		
Operated by	Unassigned		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete pile, reinforced concrete deck. 292-foot, concrete bulkhead wharf on lower side with water depth of 20 feet alongside. Constructed in 1914.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	140	878	937
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	140	878	937
Width of Apron	18	18	18
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	General Cargo		
Number and Type of Construction	1 - timber frame, wood cover		
Length and Width (Feet)	950 by 103: headhouse, 251 by 38 - 58'		
Height Inside (Feet)	17		
Floor Area for Cargo (Sq. Ft.)	90,300		
Load Capacity per Sq.Ft. (Lbs.)	500		
Cargo Doors	Shipside: Forty-four 18 by 15 feet. (See Remarks Below)		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 4"- main, 10- 2-inch lines. (water)		
Railway Connections	Belt Railroad: one 925-foot, surface track on upper apron; one 864-foot, depressed track on lower apron.		
Highway Connections	Via the Embarcadero(marginal and arterial), asphalt, 50 - 70 foot wide.		
Electric Current (Available to Vessels)	D.C., 120/240 V.		
Fire Protection (Other than City)	18-inch suction manholes.		
Remarks	(Cargo Doors Cont.) Street Side: one 29 foot and two 23 foot wide.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	20		
Name	Pier No. 37		
Location on Waterfront	Foot of Kearny Street		
Owned by	San Francisco Port Commission		
Operated by	Unassigned		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Timber pile, asphalt-paved, timber deck: 343-foot, concrete bulkhead on lower side with water depth of 20 feet alongside. Constructed in 1915.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	201	825	982
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	201	825	982
Width of Apron	14	21	20
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	300		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	General		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	1 - timber frame, wood covered.		
Length and Width (Feet)	1,030 by 161; headhouse, 350 by 34		
Height Inside (Feet)	25		
Floor Area for Cargo (Sq. Ft.)	150,400		
Load Capacity per Sq.Ft. (Lbs.)	300		
Cargo Doors	shipside: forty-six 18 by 22 feet; street side:		
Open	one 32 feet and two 23 feet wide.		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 6" main, 10-2-inch lines. (Water)		
Railway Connections	San Francisco Belt Railroad: one 965-foot, surface track on upper apron. One 820-foot depressed track on lower apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	D.C., 120/240 V.		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manholes.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	21		
Name	Pier No. 35		
Location on Waterfront	Foot of Montgomery Street.		
Owned by	San Francisco Port Commission		
Operated by	Pacific Far East Line (Home Port), Princess Cruises, Holland-America Line		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade; passengers.		
Type of Construction	One concrete pile, concrete deck; 283-foot bulkhead on lower side with water depth of 30 feet alongside. Constructed in 1916.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	200	802	1,053
Depth Alongside at MLLW	30	35	25
Usable Berthing Space	200	802	1,053
Width of Apron	14	19	19
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	Bulk		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	1 - timber frame, metal covered.		
Length and Width (Feet)	960 by 161; headhouse, 317 by 34.		
Height Inside (Feet)	27		
Floor Area for Cargo (Sq. Ft.)	144,000		
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors	Shipside: thirty-four 19 by 14 feet; eighteen 19 by 22 feet; street side; one 32 feet and two 23 feet wide.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	Through one 6" main, 2-2-inch and 4-3-inch lines (water).		
(Available to Vessels)			
Railway Connections	Belt Railroad: one 1,050-foot, surface track on upper apron; one 795-foot, depressed track on lower apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C., 220 V., 3-phase, 60-cycle; D.C., 120, 40 volts.		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manholes		
Remarks	A 280-by 130- to 80-foot shed located along rear of bulkhead on lower side.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	22		
Name	Pier No. 33.		
Location on Waterfront	Foot of Montgomery Street.		
Owned by	San Francisco Port Commission		
Operated by	Unassigned		
Purpose for which Used	Receipt and shipment of transient operation and general cargo in foreign and domestic trade.		
Type of Construction	Concrete-jacketed timber piles, reinforced concrete deck; 100-foot bulkhead wharf on lower side with water depth of 35 feet alongside. Constructed in 1918.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	150	787	687
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	150	787	687
Width of Apron	7	20	20
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space	General		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	1 - timberframe, concrete walls		
Length and Width (Feet)	800 by 110; headhouse, 360 by 34		
Height Inside (Feet)	28		
Floor Area for Cargo (Sq. Ft.)	114,100		
Load Capacity per Sq.Ft. (Lbs.)	500		
Cargo Doors	Shipside: thirty-one 16 by 16 feet; street side:		
Open	one 32 feet, and one 23 feet wide.		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Three portable belt conveyors on upper apron extend to conveyor system inside transit shed.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	Through one 6" main, 8-2-inch lines (water). 4" sewer line.		
(Available to Vessels)			
Railway Connections	Belt Railroad; one 780-foot, depressed track on lower apron; one 790-foot, surface track on upper apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C., 120/208 3-phase, 60-cycle; D.C., 120/240 V.		
Fire Protection (Other than City)	One 40-gallon, soda-acid cart, hand extinguishers, and 18-inch suction manholes.		
Remarks	100-by 18-foot timber pile, timber-decked pier extends from bulkhead on lower side; designated as pier No. 33 1/2, and used for berthing one of the city's fireboats.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	23		
Name	Pier No. 31.		
Location on Waterfront	Foot of Sansome Street.		
Owned by	San Francisco Port Commission		
Operated by	Pacific Far East Line (Home Terminal).		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete pile, reinforced concrete deck; concrete pile, concrete-decked, open wharf between inner end and lower side of pier and inner end of upper side of Pier No. 33, 29-ft., depth of water alongside wharf. Constructed in 1918.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	150	788	589
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	150	788	589
Width of Apron	7	20	20
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space	General		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	1 - timber frame, concrete walls (see Remarks)		
Number and Type of Construction	800 by 110; headhouse, 610 by 40		
Length and Width (Feet)	28		
Height Inside (Feet)	153,000 (includes 40,000 under Remarks)		
Floor Area for Cargo (Sq. Ft.)	500		
Load Capacity per Sq. Ft. (Lbs.)	Shipside: twenty-nine 16 by 16 feet; street side: one 34 feet and one 26 feet wide.		
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 6" main, 6-2-inch lines (water). 4" sewer line.		
Railway Connections	Belt Railroad: one 771-foot, depressed track on lower apron; one 570-foot, surface track on upper apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C., 240 Volts, 3-phase, 60-cycle; D.C., 120 Volts.		
Fire Protection (Other than City)	One 40-gallon, soda-acid cart, hand extinguishers, and 18-inch suction manhole.		
Remarks	A 250 - by 160-foot shed connects inner end of transit shed with transit shed on Pier No. 29. Shed is timber frame with concrete walls; has 40,000 sq. ft. of additional space for cargo; and a clear height of 29 feet inside. Headhouse is used as office space.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	24		
Name	Piers Nos. 29 and 27		
Location on Waterfront	Between foot of Sansome and foot of Lombard Streets.		
Owned by	San Francisco Port Commission		
Operated by	Pacific Far East Line (Home Terminal)		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete pile, reinforced concrete deck for Pier No. 29 and Prestressed concrete pile, reinforced concrete deck for pier No. 27. Constructed (rebuilt) in 1965.		
Description	Face (feet)	Pier No. 29 Lower Side (feet)	Pier No. 27 Upper Side (feet)
Dimensions	206	750	1,340
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	200	750	1,340
Width of Apron	8	20	20
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space Covered (Transit Sheds)	Pier No. 29 1-timber frame, concrete walls	Pier No. 27 1-steel frame, reinforced concrete walls	
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)	790 by 160	1,300 by 175	
Height Inside (Feet)	28	28	
Floor Area for Cargo (Sq. Ft.)	151,700	450,000	
Load Capacity per Sq.Ft. (Lbs.)	500	500	
Cargo Doors	Shipside: twenty-nine 16x16 feet; (See Remarks Below)		
Open Cargo Type	Containers		
Area (Acres)	2.5		
Surfacing Type	Asphalt Paved		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 10-2-inch lines. (water) 4" sewer line.		
Railway Connections	Belt Railroad: on Pier 29 two 784-foot, surface track on upper apron: one 560-foot, depressed track on opp. side of shed.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C., 120/208 volts, 3-phase, 60-cycle; A.C. 480V., 3-phase, 60-cycle. D.C.. 120/240 volts; at Pier 29 only.		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manhole. 150 lb. dry chemical cart.		
Remarks	A 372- by 123-foot concrete pile, concrete-decked, open wharf located adjacent to inner end of upper side of pier, 25-foot depth of water alongside wharf. S.F. Belt Railroad Office in rear of wharf. (Cargo Doors Cont.) Streetside: one 32-feet wide. (Railway Connections Cont.) On pier 27, two surface tracks, total 2,600 ft. long.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	25		
Name	Pier No. 23		
Location on Waterfront	Foot of Greenwich Street		
Owned by	San Francisco Port Commission		
Operated by	Pacific - Oriental Terminals		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete - jacketed timber piles, reinforced concrete deck; 57-foot bulkhead on lower side with water depth of 30 feet alongside. Constructed in 1930.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	160	800	640
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	160	800	640
Width of Apron	9	31	17
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	General		
Number and Type of Construction	1 - steel frame, reinforced concrete walls.		
Length and Width (Feet)	780 by 113; headhouse 150 x 40		
Height Inside (Feet)	18		
Floor Area for Cargo (Sq. Ft.)	93,700		
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors	Shipside: sixteen 16 by 12 feet, and sixteen 16 by 15 feet; streetside: one 29 foot wide.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 2-4" - inch water mains, 6-2" outlets 4" sewer line		
Railway Connections	Belt Railroad: one 780-foot, surface track on upper apron; one 710-foot, depressed track on lower side.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C., 220 volts, 3-phase, 60-cycle; D.C., 120/240 volts.		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manhole.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	26		
Name	Pier No. 19		
Location on Waterfront	Foot of Filbert Street		
Owned by	San Francisco Port Commission		
Operated by	Pacific - Oriental Terminals		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete - jacketed timber piles, reinforced concrete deck; 178-foot bulkhead on lower side with water depth of 30 feet alongside. Constructed in 1935.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	153	800	800
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	153	800	800
Width of Apron	9	24	17
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	General		
Number and Type of Construction	1 - steel frame, reinforced concrete walls.		
Length and Width (Feet)	790 by 113; headhouse 161 by 33.		
Height Inside (Feet)	18/24		
Floor Area for Cargo (Sq. Ft.)	93,700		
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors	Shipside: sixteen 16 by 12 feet, and seventeen 16 by 14 ft.; Streetside: one 29 feet wide.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 2-4-inch lines, 7-2" outlets (water). 4" sewer line.		
Railway Connections	Belt Railroad: one 780-foot, surface track on upper apron; one 780-foot, depressed track on lower apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50 - 70 feet wide.		
Electric Current (Available to Vessels)	A.C., 220 volts, 3-phase, 60-cycle; D.C., 120/240 volts.		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manholes.		
Remarks	Covered area under head house and shed over bulkhead wharf (=178'x 190'=) 33,820 sq. ft.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	27		
Name	Piers Nos. 15 and 17		
Location on Waterfront	Between foot of Union and foot of Green Street.		
Owned by	San Francisco Port Commission		
Operated by	Crescent Wharf and Warehouse Company		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Pier 17: concrete-jacketed, timber pile, timber deck. Pier 15: Constructed in 1955, concrete-jacketed, timber pile, reinforced concrete deck. Depressed section between transit sheds: concrete pile, reinforced concrete deck.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	490	800	800
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	490	800	800
Width of Apron	19 (max) 15 (min)	19	17
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space	Pier No. 17 General, one-timber frame, wood cover.		
Covered (Transit Sheds)	Pier No. 15 General, one-steel frame reinforced concrete walls		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)	770 by 142		
Height Inside (Feet)	18		
Floor Area for Cargo (Sq. Ft.)	109,000		
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors	Shipside: 19-16 by 16 ft.; Rear: 16-16 by 14 ft.; Streetside: 1-18 ft. wide.		
Open	Shipside: 17-16 by 15 ft.; Rear: 16-16 by 12 ft.; Streetside: 2-27 ft. wide.		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 3-3", and 4- 2-inch lines. (water) 2-4" sewer lines.		
Railway Connections	Belt Railroad: one 780-foot, surface track on lower apron; one 730-foot, surface track on upper apron; and one 680-ft. depressed track along rear of each transit shed.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50 - 70 feet wide.		
Electric Current (Available to Vessels)	A.C., 240 volts, 3-phase, 60-cycle; D.C., 120/240 volts		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manholes, 150 lb. dry chemical cart.		
Remarks	155-foot bulkhead on lower side with 30-foot water depth. Transit sheds are joined at outer end by 140-by 90-foot steel frame, concrete-walled, connecting shed.		

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	28		
Name	Pier No. 9		
Location on Waterfront	Foot of Vallejo Street		
Owned by	San Francisco Port Commission		
Operated by	Marine Terminals Corporation		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete-jacketed, timber pile, reinforced concrete deck; 200-foot bulkhead on lower side with water depth of 25 feet alongside. Constructed in 1936.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	154	800	800
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	154	800	800
Width of Apron	9	25	17
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	General		
Number and Type of Construction	one-steel frame, reinforced concrete walls.		
Length and Width (Feet)	820 by 112		
Height Inside (Feet)	18/24		
Floor Area for Cargo (Sq. Ft.)	92,000		
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors	Shipside: sixteen 16 by 12 feet, and seventeen (See Remarks)		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through 8, 2-inch lines. (water) 4" sewer line.		
(Available to Vessels)			
Railway Connections	Belt Railroad: one 782-foot, surface track on upper apron; one 790-foot, depressed track on lower apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50 - 70 feet wide		
Electric Current (Available to Vessels)	A.C., 240 volts, 3-phase, 60-cycle; D.C., 120/240 volts.		
Fire Protection (Other than City)	One 40-gallon, soda-acid cart, hand extinguishers, and 18-inch suction manholes.		
Remarks	(Cargo Doors Cont.) 16 by 15 feet; Streetside: one 29 feet wide.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	29		
Name	Pier No. 7		
Location on Waterfront	Foot of Broadway		
Owned by	San Francisco Port Commission		
Operated by	Murphy Pacific		
Purpose for which Used	Berthing towboats and vessels for repair purpose only. Also parking lot.		
Type of Construction	Timber pile, asphalt-surface, timber deck; 310-foot bulkhead on lower side with water depth of 20 feet alongside. Constructed in 1915.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	134	817	804
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	134	817	804
Width of Apron	19	15	17
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	400		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction	one-timber frame, wood covered.		
Length and Width (Feet)	810 by 101; headhouse, 301 by 30		
Height Inside (Feet)	15/28		
Floor Area for Cargo (Sq. Ft.)	72,000		
Load Capacity per Sq. Ft. (Lbs.)	400		
Cargo Doors	Shipside: thirty-four 14 by 17 feet; (see remarks below)		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through 8-" 3-, lines. (water)		
(Available to Vessels)			
Railway Connections	Belt Railroad: one 790-foot, surface track on upper apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50 - 70 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manholes.		
Remarks	Destroyed by fire.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	30		
Name	Pier No. 5		
Location on Waterfront	Foot of Pacific Avenue		
Owned by	San Francisco Port Commission		
Operated by	Not operated		
Purpose for which Used	Not used. Condemned.		
Type of Construction	Timber pile, timber deck; 171-foot bulkhead on lower side with water depth of 20 feet alongside. Constructed in 1919.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	100	589	344 + 260
Depth Alongside at MLLW	35	30	20
Usable Berthing Space	100	589	344 + 260
Width of Apron	15	5	5 and 18
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	Condemned		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 4- and one 2-inch lines. (water)		
Railway Connections	Belt Railroad: one unusable, 244-foot, surface track on inner portion of upper apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50 - 70 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None		
Remarks	Pier is closed to vehicular traffic. Bulkhead Buildings (314'x 50'=) 15,700 sq. ft.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	31		
Name	Pier No. 3		
Location on Waterfront	Foot of Jackson Street		
Owned by	San Francisco Port Commission		
Operated by	Various tenants, mainly shipowners and Merchant Towboat Co. and Paladini Fish Co.		
Purpose for which Used	Receipt and shipment of general cargo in inland trade; mooring towboats.		
Type of Construction	Concrete pile, reinforced concrete deck. (See Remarks) Constructed in 1918.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	138	703	705
Depth Alongside at MLLW	30	30	30
Usable Berthing Space	138	703	705
Width of Apron	15	21	5
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	General		
Cargo Type (Bulk, Container, Etc.)	One-timber frame, wood covered.		
Number and Type of Construction	685 by 112; headhouse; 400 by 30 - 40.		
Length and Width (Feet)	16/19		
Height Inside (Feet)	79,700		
Floor Area for Cargo (Sq. Ft.)	500		
Load Capacity per Sq. Ft. (Lbs.)	Shipside: Sixteen 10 by 12 feet; Streetside: (See Remarks)		
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through one 3-, and 3- 2-inch lines. (water)		
(Available to Vessels)			
Railway Connections	None		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50 - 70 feet wide.		
Electric Current (Available to Vessels)	D.C., 120/240 volts		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manholes.		
Remarks	One 70 by 8-foot pier extends from 150-foot bulkhead on lower side. (Pier 3 1/2) Cargo Doors Cont.) one 33, one 23, and two 18 feet wide.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	32		
Name	Pier No. 1		
Location on Waterfront	Foot of Washington St.		
Owned by	San Francisco Port Commission		
Operated by	do.		
Purpose for which Used	Parking of automobiles		
Type of Construction	Concrete-jacketed, timber piles, asphalt - paved-reinforced concrete deck. Constructed in 1929.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	120	706	450
Depth Alongside at MLLW	35	35	15
Usable Berthing Space	120	706	200
Width of Apron	8	29	17
Height of Deck above MLLW	13		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One steel frame, reinforced concrete walls		
Length and Width (Feet)	730 by 121 (irregular shape)		
Height Inside (Feet)	15/ 17/ 22		
Floor Area for Cargo (Sq. Ft.)	86,750		
Load Capacity per Sq.Ft. (Lbs.)	500		
Cargo Doors	Shipside; twenty-seven 13 by 12 feet; streetside one 32 feet wide.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 4"-, 7-3" lines. (water) , 4" sewerline		
Railway Connections	Belt Railroad: one 590 foot, depressed track on upper apron; disconnected in St. at rear.		
Highway Connections	Via the Embarcadero (Marginal and Arterial), asphalt 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C., 240 volts, 3-phase, 60-cycle; D.C., 120/240 v		
Fire Protection (Other than City)	Two 40-gallon, soda-acid carts, hand extinguishers, and 18-inch suction manholes.		
Remarks	Outer 340 feet of pier is 135' feet wide; inner portion is 157 feet wide, concrete pile, concrete-decked extension 77 by 97 feet, from bulkhead on lower side, supports 2 story office building.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	33		
Name	San Francisco Ferry Terminal.		
Location on Waterfront	Foot of Market St.		
Owned by	San Francisco Port Commission		
Operated by	Bay and Ocean Cruises and others.		
Purpose for which Used	Terminal for passenger ferries operating between San Francisco and Tiburon; Landing for Cruise boat.		
Type of Construction			
Description	Face (feet)		
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	None		
Railway Connections	None		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hydrants and hand extinguishers.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	34		
Name	Pier No. 16		
Location on Waterfront	Foot of Howard St.		
Owned by	San Francisco Port Commission		
Operated by	Do.		
Purpose for which Used	Maintenance Shop.		
Type of Construction	Timber pile, asphalt-paved, timber deck. Constructed in 1915.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	140	687	680
Depth Alongside at MLLW	45	20	20
Usable Berthing Space	140	687	680
Width of Apron	19	20	17
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	260		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	Bulk		
Number and Type of Construction	One timber frame, wood covered. (See Remarks)		
Length and Width (Feet)	677 by 103; headhouse, 150 by 41 to 48		
Height Inside (Feet)	22		
Floor Area for Cargo (Sq. Ft.)	69,700		
Load Capacity per Sq. Ft. (Lbs.)	260		
Cargo Doors	Shipside: nine 18 by 18 feet; streetside: one 40 by 22 feet, and 22 by 22 feet.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	4" water main, 1-3" & 5-2" outlets		
Railway Connections	None		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manholes, 150 lb. wheeled dry chemicals		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	35		
Name	Pier No. 18		
Location on Waterfront	Between foot of Howard and foot of Folsom Streets.		
Owned by	San Francisco Port Commission.		
Operated by	Not operated		
Purpose for which Used	Not used (Not available for marine use)		
Type of Construction	Timber pile, asphalt-paved, timber deck; 190-foot bulkhead on upper side with water depth of 15 feet along-side. (See Remarks) Constructed in 1915.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	141	682	680
Depth Alongside at MLLW	45	20	25
Usable Berthing Space	141	682	680
Width of Apron	19	20	18
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	260		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction	One timber frame, wood covered		
Length and Width (Feet)	677 by 103; headhouse 330 by 40		
Height Inside (Feet)	22		
Floor Area for Cargo (Sq. Ft.)	69,700		
Load Capacity per Sq.Ft. (Lbs.)	260		
Cargo Doors	Shipside: twenty-six 19 by 18 feet; (See Remarks)		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	one small boat hoist		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 3" main, and 6- 2-inch lines. (water)		
Railway Connections	None		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50 - 70 feet wide.		
Electric Current (Available to Vessels)	D.C., 120/240 volts.		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manholes.		
Remarks	An 85-by 12-foot, timber pile, timber-decked pier extends from bulkhead on upper side. (Cargo Doors Cont.) Streetside: one 45 by 22 feet, and one 22 by 22 feet.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	36		
Name	Pier No. 20		
Location on Waterfront	Foot of Folsom Street		
Owned by	San Francisco Port Commission		
Operated by	Not operated.		
Purpose for which Used	Not used. (See Remarks)		
Type of Construction	Timber pile in steel-cased concrete cylinders, timber deck; 142 foot bulkhead on upper side with water depth of 10 feet alongside. Constructed in 1913 and 1920.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	122	628	638
Depth Alongside at MLLW	40	25	23
Usable Berthing Space	122	628	638
Width of Apron	15	16	16
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction	One-timber frame, wood covered: (See Remarks)		
Length and Width (Feet)	650 by 90		
Height Inside (Feet)	20		
Floor Area for Cargo (Sq. Ft.)	58,000		
Load Capacity per Sq. Ft. (Lbs.)	225		
Cargo Doors	Shipside: Twenty-four 17 by 15 feet, and three 10 by 15 feet; street side: two 28 feet wide.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One small 2T boat hoist		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 4" main 4-2-inch lines (water)		
Railway Connections	one 620-foot, surface track on lower apron, disconnected from Belt Railroad.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	One 40-gallon, soda -acid cart, hand extinguishers, and 18-inch suction manholes.		
Remarks	Pier 20 was destroyed by fire in late 1972.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	37		
Name	Pier No. 22		
Location on Waterfront	Between foot of Folsom and foot of Harrison Streets.		
Owned by	San Francisco Port Commission		
Operated by	Service Engineering Co.		
Purpose for which Used	Ship repairs.		
Type of Construction	Timber pile, asphalt-paved, timber deck; 187 foot bulkhead on upper side with water depth of 15 feet alongside. (See Remarks) Constructed in 1916 and 1923.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	127	722	732
Depth Alongside at MLLW	50	35	35
Usable Berthing Space	127	722	732
Width of Apron	12	19	10
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	Outer 322 ft.-450; Inner 400'-250		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One timber frame, wood covered		
Length and Width (Feet)	765 by 98 (Incl-Head House)		
Height Inside (Feet)	22		
Floor Area for Cargo (Sq. Ft.)	69800		
Load Capacity per Sq.Ft. (Lbs.)	Outer 210 ft. 450; Inner-250		
Cargo Doors	Shipside: thirty-four 18 by 18 feet; streetside: one 31 feet wide by 22 feet high.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	Through one 3" main, 8- 2 inch lines. (water)		
(Available to Vessels)			
Railway Connections	Belt Railroad: one 715 foot, surface track on lower apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C., 240 v 3phase 60-cycle D.C., 120/240 volts.		
Fire Protection (Other than City)	One 40-gallon, soda-acid cart, hand extinguishers, and 18-inch suction manholes.		
Remarks	Timber pile, timber-decked Pier No. 22 1/2, 82 by 20 feet, extends from bulkhead on upper side, and is used as base for the City fireboat "Phoenix".		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	38		
Name	Pier No. 24		
Location on Waterfront	Foot of Harrison Street		
Owned by	San Francisco Port Commission		
Operated by	Cal Auto Service		
Purpose for which Used	Servicing automobiles		
Type of Construction	Part concrete pile, concrete deck, and part timber pile, timber deck; 193-foot bulkhead on upper side with water depth of 30 feet alongside. Constructed in 1915.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	130+40	760	666
Depth Alongside at MLLW	45	35	35
Usable Berthing Space	-	760	666
Width of Apron	SF-O Bay Bridge Pier	20	16
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	Outer section 500; inner section 225		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One-timber frame, wood covered.		
Length and Width (Feet)	675 by 115 (av.); blkhd. shed 210 by 173		
Height Inside (Feet)	22		
Floor Area for Cargo (Sq. Ft.)	69,000	36,000	
Load Capacity per Sq.Ft. (Lbs.)	500 and 225		
Cargo Doors	Shipside; twenty-three 19 by 18 feet; Streetside: one 30 feet wide.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through one 3" main, 5- 2-inch lines. (water)		
(Available to Vessels)			
Railway Connections	Belt Railroad: one 600-foot, depressed tracks on lower apron.		
Highway Connections	Via the Embarcadero (marginal and arterial) asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C., 240 volts, single phase, 60-cycle; D.C., 120/240 volts.		
Fire Protection (Other than City)	Two 40-gallon, chemical carts, 18-inch suction manholes, water curtain on outside of transit shed and under pier.		
Remarks	San Francisco-Oakland Bay Bridge pier at face. Bulkhead shed is located at rear of 193-foot bulkhead on upper side.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	39		
Name	Pier No. 26		
Location on Waterfront	Between foot of Harrison and foot of Byrant Streets.		
Owned by	San Francisco Port Commission		
Operated by	California Stevedore & Ballast Company		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete cylinder, concrete deck; 203-foot bulkhead on upper side with water depth of 25 feet alongside. Constructed in 1912.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	200	620	635
Depth Alongside at MLLW	50	35	35
Usable Berthing Space	200	620	635
Width of Apron	12	20	20
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	General Cargo		
Number and Type of Construction	One steel and timber frame, wood covered		
Length and Width (Feet)	750 by 160; bulkhead shed 200 by 137		
Height Inside (Feet)	27		
Floor Area for Cargo (Sq. Ft.)	121,900	27,000	
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors	Overhead doors open entire length of apron on either side.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 10-ton, hand-operated, chain hoist travels on 30-foot trolley beam in transit shed; maximum lift 20 feet.		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through one 4" main, 6- 2-inch lines (water) 4" Sewer Line		
(Available to Vessels)			
Railway Connections	Belt Railroad: one 620-foot, surface track on upper apron; one 600-foot, depressed track on lower apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C., 240 volts, 3-phase, 60-cycle; D.C., 120/240 volts.		
Fire Protection (Other than City)	Two 40-gallon, chemical carts, 18-inch suction manholes, water curtain on outside of transit shed and under pier.		
Remarks	Bulkhead shed is located at rear of 203-foot bulkhead on upper side.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	40		
Name	Pier No. 28		
Location on Waterfront	Foot of Brvant Street		
Owned by	San Francisco Port Commission		
Operated by	Overseas Shipping Company		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete pile, reinforced concrete deck; 180-foot bulkhead on upper side with water depth of 25 feet alongside. Constructed in 1912.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	150	541	675
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	150	541	675
Width of Apron	15	18	19
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	General Cargo		
Number and Type of Construction	One steel frame, reinforced concrete walls		
Length and Width (Feet)	658 by 113		
Height Inside (Feet)	22/27		
Floor Area for Cargo (Sq. Ft.)	73,500		
Load Capacity per Sq.Ft. (Lbs.)	500		
Cargo Doors	Shipside: forty 20 by 18 feet; Streetside: one 35 feet wide.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (available to Vessels)	Through one 4"-main, 6- 2-inch lines (water) 4" sewer line		
Railway Connections	Belt Railroad: one 220-foot, surface track on lower apron; one 657-foot, depressed track on upper apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	D.C., 110 volts A.C., 120/240 v, single phase, 60-cycle		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manholes.		
Remarks	Transit sheds on Piers Nos. 24, 26, and 28 are connected by bulkheads sheds.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	41		
Name	Piers Nos. 30 and 32		
Location on Waterfront	Foot of Brannan Street & Main Street		
Owned by	San Francisco Port Commission		
Operated by	Crescent Wharf and Warehouse Co.		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade		
Type of Construction	Concrete retaining wall, solid fill, concrete deck with concrete pile, concrete-decked extensions; 219-foot bulkhead on upper side with water depth of 25 feet alongside. Constructed in 1912 and 1950.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	622	845	932
Depth Alongside at MLLW	40	35	35
Usable Berthing Space	622	845	932
Width of Apron	12 - 66 in central	22	22
Height of Deck above MLLW	12	180	
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	Bulk		
Number and Type of Construction	Three 2-wood frame wood covered; one steel frame, metal covered.		
Length and Width (Feet)	840 by 200; 895 by 200; 179 by 187		
Height Inside (Feet)	27		
Floor Area for Cargo (Sq. Ft.)	168,000; 179,000; 34,000		
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors	Overhead doors open entire length of each side each transit shed.		
Open	General		
Cargo Type			
Area (Acres)	Central storage area (66' x 180')		
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 2" main, 2-4" & 6-2-inch lines. (water) 4" sewer line		
Railway Connections	Belt Railroad: one 830-foot, surface track on lower apron; one 920-foot, surface track on upper apron; two platform-level tracks along rear of each transit shed, total length 2,000 feet.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C., 240 volts, 3-phase, 60-cycle; D.C., 120/240 volts.		
Fire Protection (Other than City)	Four 40-gallon, soda-acid carts, hand extinguishers, and 18-inch suction manholes.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	42		
Name	Pier No. 34		
Location on Waterfront	Foot of Brannan Street		
Owned by	San Francisco Port Commission		
Operated by	S & C Motors		
Purpose for which Used	Storing automobiles		
Type of Construction	Concrete-jacketed timber piles, asphalt-paved timber deck; 195-foot bulkhead on upper side with water depth of 25 feet alongside. Constructed in 1909.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	139	634	652
Depth Alongside at MLLW	30	35	35
Usable Berthing Space	139	634	652
Width of Apron	15	10	19
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	415		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One timber frame, wood covered.		
Length and Width (Feet)	622 by 109		
Height Inside (Feet)	20		
Floor Area for Cargo (Sq. Ft.)	68,400		
Load Capacity per Sq. Ft. (Lbs.)	415		
Cargo Doors	Shipside: thirty, 20 by 20 feet; streetside: one 20 feet wide.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through 2-4" watermains, 3-3" & 5-2" Outlets		
(Available to Vessels)			
Railway Connections	Belt Railroad: one 647-foot, depressed track on upper apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	D.C., 120/240 v		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manholes.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	43		
Name	Pier No. 36		
Location on Waterfront	Between foot of Brannan and foot of Townsend		
Owned by	San Francisco Port Commission		
Operated by	Pacific Ship Repair, Inc.		
Purpose for which Used	Mooring vessels for repair.		
Type of Construction	Concrete cylinder, reinforced concrete deck; timber ferry rack and adjustable transfer bridge; and 138-foot bulkhead on upper side with water depth of 25 feet alongside. (See Remarks) Timber piles and timber deck in front of Ferry ship. Constructed in 1909.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	100 + 100	714	620
Depth Alongside at MLLW	25	30	25
Usable Berthing Space	100	714	620
Width of Apron	-	17	50-130
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500 (inner 400'); 250 (outer 300')		
Lighted or Unlighted	Lighted		
Storage Space	One-outer half, timber frame, wood covered;		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	inner half, steel frame, concrete walls. (See Remarks)		
Length and Width (Feet)	700 by 30-100		
Height Inside (Feet)	21		
Floor Area for Cargo (Sq. Ft.)	49,000		
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 35-ton, diesel-electric, traveling, revolving, full-portal, gantry crane with 70-foot boom on upper side of pier; and one 40-ton, diesel-electric, revolving, floating crane with 106-foot reach.		
Pipelines			
Water Supply and Waste Treatment Facilities	Through 2-4" watermains, 7- 2-inch lines.		
(Available to Vessels)			
Railway Connections	Belt Railroad: one 692-foot, surface track on lower apron; one 420-foot, surface track on upper apron; two surface tracks leads to unused car floating bridge.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C. and D.C. at all voltages.		
Fire Protection (Other than City)	Two 40-gallon, soda-acid carts, hand extinguishers, and 18-inch suction manholes.		
Remarks	Pier is 201 feet wide shoreward from inner end of car float slip. Transit shed was used by operator as office and shops in connection with making marine repairs to vessels. Ferry slip is not in use. The bottom in front of the slip has been piled and decked over and as such, the Ferry slip cannot be used.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	44		
Name	Pier No. 38		
Location on Waterfront	Foot of Townsend Street		
Owned by	San Francisco Port Commission		
Operated by	Unassigned		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete pile, steel and concrete deck; 128-foot bulkhead on upper side with water depth of 20 feet alongside. Constructed in 1909 and 1931.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	155	888	906
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	155	888	906
Width of Apron	15	29	16
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space	General Cargo		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One-steel frame, concrete walls.		
Length and Width (Feet)	880 by 109; headhouse, 300 by 35-40		
Height Inside (Feet)	20/26		
Floor Area for Cargo (Sq. Ft.)	98,500		
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors	Shipside: fifty-one 20 by 18 feet; street side: one 20 and one 24-feet wide.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through 2-4" watermains, 10- 2-inch lines.		
(Available to Vessels)			
Railway Connections	Belt Railroad: one 865-foot, depresses track on lower apron; and one 880-foot, surface track on upper apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C. 240 volts, 3-phase, 60-cycle; D.C., 120/240 volts		
Fire Protection (Other than City)	Two 40-gallon, soda-acid carts, hand extinguishers, and 18-inch suction manholes.		
Remarks	Headhouse connects with headhouse on Pier No. 40.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	45		
Name	Pier No. 40		
Location on Waterfront	Foot of King Street		
Owned by	San Francisco Port Commission		
Operated by	Star Terminal Company		
Purpose for which Used	Receive newsprint from Canada		
Type of Construction	Concrete pile, steel and concrete deck; 154-foot bulkhead on upper side with water depth of 20 feet alongside. Constructed in 1909 and 1925.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	157	908	904
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	157	908	904
Width of Apron	15	30	17
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500 (inner 550') 300 (outer 280')		
Lighted or Unlighted	Lighted		
Storage Space	One - outer 265 feet, timber frame, wood covered;		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	General Cargo		
Number and Type of Construction	inner 632 feet, steel frame, concrete walls.		
Length and Width (Feet)	897 by 109, headhouse, 160 by 40		
Height Inside (Feet)	20/25		
Floor Area for Cargo (Sq. Ft.)	98,700		
Load Capacity per Sq.Ft. (Lbs.)	500 (inner 550') 300 (outer 280')		
Cargo Doors	Shipside: fifty-two 20 by 18 feet; streetside: one 20 and one 24 feet wide.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through 2-4" mains, 10- 2-inch lines. (water)		
(Available to Vessels)			
Railway Connections	Belt Railroad: one 880-foot, depressed track on lower apron; and one 800-foot, surface track on upper apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C., 240 volts, 3-phase, 60-cycle; D.C., 120/240 volts.		
Fire Protection (Other than City)	Two 40-gallon, soda -acid carts, hand extinguishers, and 18-inch suction manholes.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	46		
Name	Pier No. 42		
Location on Waterfront	Between foot of King and foot of Berry Streets		
Owned by	San Francisco Port Commission		
Operated by	Unassigned		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Outer 288 feet, timber pile, timber deck; Inner 947 feet, concrete pile, concrete deck; 174-foot bulkhead on upper side with water depth of 25 feet along side. Constructed in 1918 and 1923.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	144	935	935
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	144	935	935
Width of Apron	13	24	17
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	Outer 285 feet, 350; Inner 650 feet, 500		
Lighted or Unlighted	Lighted		
Storage Space	General Cargo		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One-timber frame, wood covered.		
Length and Width (Feet)	932 by 103 feet		
Height Inside (Feet)	20 feet		
Floor Area for Cargo (Sq. Ft.)	96,000 square feet		
Load Capacity per Sq.Ft. (Lbs.)	500 and 350		
Cargo Doors	Shipside: forty-five 15 by 20 feet; Streetside: one 20 and one 16 feet wide.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 6" main, and one 4" main (water) 2-4", 1-3" & 8-2" outlets		
Railway Connections	Belt Railroad: one 900-foot, depressed track on lower apron; and one 900-foot, surface track on upper apron.		
Highway Connections	Via the Embarcadero (marginal and arterial) asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C., 240 volts, 3-phase, 60-cycle; D.C. 120/240 volts.		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manholes.		
Remarks			

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	47		
Name	Pier No. 44		
Location on Waterfront	Foot of Berry Street		
Owned by	San Francisco Port Commission		
Operated by	D. & M. Driveway Service		
Purpose for which Used	Not marine use. (See Remarks)		
Type of Construction	Outer 323 feet, timber pile, timber deck; Inner 644 feet, concrete pile, concrete deck; 196-foot bulkhead on upper side with water depth of 30 feet alongside. Constructed in 1916 and 1923.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	149	967	967
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	149	967	967
Width of Apron	12	22	25
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	Outer 342 feet, 350; inner 625 feet, 500		
Lighted or Unlighted	Lighted		
Storage Space	Bulk		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One two-story, timber frame, wood cover.		
Length and Width (Feet)	958 by 102 feet		
Height Inside (Feet)	1st floor 16; 2nd floor 11		
Floor Area for Cargo (Sq. Ft.)	195,000		
Load Capacity per Sq. Ft. (Lbs.)	1st fl. 500 (inner) to 350 (outer); 2nd fl. 90 (inner) 125 (outer)		
Cargo Doors	Shipside: 1st floor, forty-four 15 by 20 feet;		
Open	2nd floor, forty-four 15 by 10 feet; Streetside: two 20 feet wide.		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 6" main, one 4" main (water) 3-4" & 7-2" outlets		
Railway Connections	Belt Railroad: one 950-foot, depressed track on lower apron; and one 950-foot, surface track on upper apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide		
Electric Current (Available to Vessels)	A.C., 240 volts, 3-phase, 60-cycle. D.C., 120/240 v.		
Fire Protection (Other than City)	Two 40-gallon, soda-acid carts, hand extinguishers, and 18-inch suction manholes.		
Remarks	Used for office area and storage of automobiles.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	48		
Name	Pier No. 46A		
Location on Waterfront	At entrance to China Basin		
Owned by	San Francisco Port Commission		
Operated by	Star Terminal Co.		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Timber pile, timber deck Constructed in 1914.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	201	802	679
Depth Alongside at MLLW	30	35	35
Usable Berthing Space	201	802	679
Width of Apron	12	22	21
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	350		
Lighted or Unlighted	Lighted		
Storage Space	General Cargo		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One-timber frame, wood covered.		
Length and Width (Feet)	830 by 158		
Height Inside (Feet)	27		
Floor Area for Cargo (Sq. Ft.)	123,000		
Load Capacity per Sq.Ft. (Lbs.)	350		
Cargo Doors	Shipside: thirty-five 15 by 15 feet; streetside: one 25		
Open	and one 20 feet wide.		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through one 6"-main, 8- 2-inch lines. (water)		
(Available to Vessels)			
Railway Connections	Belt Railroad: one 785-foot, surface track on lower apron; and one 740-foot, depressed track on upper apron.		
Highway Connections	Via the Embarcadero (marginal and arterial), asphalt, 50-70 feet wide.		
Electric Current (Available to Vessels)	A.C., 240 volts, 3-phase, 60-cycle; D.C., 120/240 volts.		
Fire Protection (Other than City)	Hand extinguishers, and 18-inch suction manholes		
Remarks	Foreign Trade Zone No. 3 located in rear along opposite side of the Embarcadero.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	49		
Name	Pier No. 46B		
Location on Waterfront	North side of China Basin		
Owned by	San Francisco Port Commission		
Operated by	ABC Automotive		
Purpose for which Used	Servicing automobiles		
Type of Construction	Reinforced concrete bulkhead with solid fill and concrete deck. Constructed in 1925.		
Description	Face (feet)		
Dimensions	1,037		
Depth Alongside at MLLW	35		
Usable Berthing Space	1,037		
Width of Apron	21		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	700		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Two two-story, reinforced concrete floors, 812 by 134;		
Length and Width (Feet)	annex irregular in shape.		
Height Inside (Feet)	16; 5' 14"		
Floor Area for Cargo (Sq. Ft.)	108,000; annex 100,228		
Load Capacity per Sq. Ft. (Lbs.)	1st floor, 700; 2nd floor, 350; roof, 250		
Cargo Doors	Shipside: 1st floor, fifteen 15 by 18 feet; 2nd floor,		
Open	nineteen 10 by 15 feet.		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two timber, traveling, semiportal, cargo platforms on apron of wharf at 2nd floor level.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 3"-main, 3- 2-inch lines. (water) 4" sewer line		
Railway Connections	Belt Railroad: one 800-foot surface track on apron; two depressed tracks between transit shed and annex, total length 1,450 feet; one 860-foot platform-level track on Berry Street side of annex.		
Highway Connections	Via Berry Street (marginal), asphalt, 40-feet wide, from the Embarcadero.		
Electric Current (Available to Vessels)	A.C. 480 volts, 3-phase, 60-cycle; D.C., 120/240 volts		
Fire Protection (Other than City)	Chemical extinguishers.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	50		
Name	Wharf No. 58		
Location on Waterfront	North side of Channel Street between 4th and 7th Streets. (See Remarks)		
Owned by	San Francisco Port Commission		
Operated by	San Francisco Port Commission		
Purpose for which Used	Not in usable condition.		
Type of Construction	Two timber pile, timber-decked wharves extending from timber bulkheads with solid fill; wharves are approximately 1,470 feet apart.		
Description	Face (feet)		
Dimensions	300 and 800		
Depth Alongside at MLLW	15		
Usable Berthing Space	300 and 800		
Width of Apron	Open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Unlighted		
Storage Space	None		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	Southern Pacific Company tracks 150 feet in rear of wharf.		
Highway Connections	Via Berry Street (marginal), asphalt, 40-feet wide, from 3rd street (arterial).		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None		
Remarks	Port Commission designates the north side of Channel Street between 4th and 7th streets as Pier No. 58.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	51		
Name	Pier No. 60		
Location on Waterfront	South side of Channel Street between 4th and 7th streets. (See Remarks)		
Owned by	San Francisco Port Commission		
Operated by	San Francisco Port Commission		
Purpose for which Used	Partially used-small boat mooring		
Type of Construction	Timber bulkhead with solid fill, fronted by timber pile, timber-decked shore wharf. (See Remarks)		
Description	Face (feet)		
Dimensions	2,550		
Depth Alongside at MLLW	15		
Usable Berthing Space	2,550		
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted		
Storage Space	None		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities Available to Vessels)	None		
Railway Connections	S.P. yard in the back		
Highway Connections	Via 40-foot, asphalt, marginal road from 4th Street.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None		
Remarks	Wharf in poor condition		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	52		
Name	Pier No. 60, Banana Wharf.		
Location on Waterfront	South side of Channel Street between 3rd and 4th Streets.		
Owned by	Southern Pacific Company		
Operated by	Not in use.		
Purpose for which Used	Not in use.		
Type of Construction	Timber pile, timber-decked, shore wharf.		
Description	Face (feet)		
Dimensions	740		
Depth Alongside at MLLW	35		
Usable Berthing Space	740		
Width of Apron	Open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	lighted		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to vessels)	None.		
Railway Connections	Southern Pacific Company: Nine platform - level tracks in rear of wharf, total length 4,000 feet.		
Highway Connections	Via Third Street, asphalt, 70 feet wide (marginal and arterial).		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hydrants, hose carts, and hand extinguishers.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	53		
Name	Pier No. 62		
Location on Waterfront	South side of China Basin, below 3rd Street Bridge		
Owned by	San Francisco Port Commission		
Operated by	Not operated. Not available for marine use.		
Purpose for which Used	Not used.		
Type of Construction	Timber pile, timber-decked, shore wharf.		
Description	Face (feet)		
Dimensions	710		
Depth Alongside at MLLW	20		
Usable Berthing Space	710		
Width of Apron	15-35		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space	None		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities Available to Vessels)	Through one 4- and one 2-inch lines (water)		
Railway Connections	None		
Highway Connections	Via China Basin Street (marginal), asphalt, 72 feet wide from 3rd Street (arterial)		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	One 40-gallon, soda-acid cart.		
Remarks	Pier has been condemned.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	54		
Name	Santa Fe Car Float Slip		
Location on Waterfront	South side of entrance to China Basin.		
Owned by	San Francisco Port Commission		
Operated by	Not operated		
Purpose for which Used	Not used. (See Remarks)		
Type of Construction	Timber pile, timber deck; timber ferry rack with float bridge.		
Description	Face (feet)		
Dimensions	car float slip		
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space	None		
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	None: Disconnected		
Highway Connections	Via China Basin Street (marginal), asphalt, 72 feet wide from 3rd Street (arterial).		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None		
Remarks	Operations at this facility have been moved. The facility is not used.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	55		
Name	Pier No. 48-A		
Location on Waterfront	South of China Basin entrance.		
Owned by	San Francisco Port Commission		
Operated by	Overseas Shipping		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete retaining walls, solid fill and concrete deck; inner and outer extensions of timber piles, with concrete deck and timber piles with timber decks. Constructed in 1928.		
Description	Face (feet)	Lower side (feet)	
Dimensions	216	610	
Depth Alongside at MLLW	35	35	
Usable Berthing Space	216	610	
Width of Apron	14	29	
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	General.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	one-steel frame, reinforced concrete walls.		
Length and Width (Feet)	690 by 123; annex, 135 by 63		
Height Inside (Feet)	18/24		
Floor Area for Cargo (Sq. Ft.)	84,000; annex 8,400		
Load Capacity per Sq.Ft. (Lbs.)	500		
Cargo Doors	Shipside: fourteen 16 by 12 feet; others: (See Remarks)		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 4-" main 4- 2-inch lines. (water) 4" sewer line		
Railway Connections	Belt Railroad: two surface tracks on lower apron, total length 1,200 feet; three depressed tracks along rear of transit shed, total length 1,500 feet.		
Highway Connections	Via China Basin Street (marginal), asphalt, 72 feet wide from 3rd Street (arterial)		
Electric Current (Available to Vessels)	A.C., 120 volts, single-phase, 60-cycle; A.C., 240 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	One 40-gallon, soda-acid cart, hand extinguishers, and 18-inch suction manholes.		
Remarks	Face of Pier is contiguous with Pier No. 48-B providing a total of 371 feet of berthing space. (Cargo Doors Cont.) sixteen 16 by 12 feet; Streetside: one 20 feet wide.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	56		
Name	Pier No. 48-B, Newsprint Terminal		
Location on Waterfront	600 feet south of entrance to China Basin.		
Owned by	San Francisco Port Commission		
Operated by	Overseas Shipping		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete retaining walls, solid fill and concrete deck; inner and outer extensions of concrete piles with concrete deck; 270-foot bulkhead on upper side with water depth of 20 feet along side. Constructed in 1928.		
Description	Face (feet)	Upper side (feet)	
Dimensions	155	636	
Depth Alongside at MLLW	35	35	
Usable Berthing Space	155	636	
Width of Apron	14	29	
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	General Cargo		
Number and Type of Construction	One-steel frame, reinforced concrete walls		
Length and Width (Feet)	700 by 123		
Height Inside (Feet)	18/24		
Floor Area for Cargo (Sq. Ft.)	85,000		
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors	Shipside: fourteen 16 by 12 feet; other: (See Remarks)		
Open	:		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 4"-main, 4- 2-inch lines. (water) 4" sewer line		
Railway Connections	Belt Railroad: two surface tracks on upper apron, total length 1,230 feet.		
Highway Connections	Via China Basin (marginal), asphalt, 72 feet wide from 3rd Street (arterial)		
Electric Current (Available to Vessels)	A.C., 120 volts, single-phase, 60-cycle; A.C., 240 volts, 3-phase, 60-cycle		
Fire Protection (Other than City)	One 40-gallon, soda-acid cart, hand extinguishers, and 18-inch suction manholes.		
Remarks	Face of pier is contiguous with Pier No. 48-A providing a total of 371 feet of berthing space. (Cargo Doors Cont.) sixteen 16 by 12 feet; Streetside: one 20 feet wide.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	57		
Name	Mission Rock Terminal Pier No. 50		
Location on Waterfront	Foot of Mission Rock Street		
Owned by	San Francisco Port Commission		
Operated by	Sheds A & C assigned to Crescent Wharf and Warehouse Co. Sheds B & D assigned to California Stevedore & Ballast Co.		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete retaining walls with solid fill and concrete deck; concrete pile, concrete-decked extensions Constructed in 1925, rebuilt in 1950.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	1,000	1,480	1,100 + 582
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	1,000	1,480	1,100 + 582
Width of Apron	open	31 to 29	31 to 29
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space	Sheds A & B Shed D Shed C		
Covered (Transit Sheds)	Two-timber frame reinforced concrete walls, concrete floor		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Two-steel frame, concrete walls, concrete floor		
Length and Width (Feet)	680 by 115 ea.	700 by 150	612 by 150
Height Inside (Feet)	18/25	16.5	16.5
Floor Area for Cargo (Sq. Ft.)	78,000 ea.	105,000	91,000
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors	Shipside: twenty-eight 15 by 10 feet; (See remarks)		
Open			
Cargo Type	Container Storage		
Area (Acres)	6.5		
Surfacing Type	Asphalt		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	1 Truck crane : 250 T cap. at 18' radius 17 1/2 T Cap. at 150' radius		
Pipelines			
Water Supply and Waste Treatment Facilities	Through 2-6" mains, 21-2" outlets (water) 4" sewer line		
(Available to Vessels)			
Railway Connections	Belt Railroad: two surface tracks on lower apron, total length 2,900 feet wide single connection to 2 sur-face trackson face, total lenth 1,800 feet; two surface		
Highway Connections	tracks on upper apron, total lenth 3,200 feet (See Remarks) Via Mission Rock Street (access), asphalt, 85 feet wide from 3rd Street (arterial)		
Electric Current (Available to Vessels)	A.C., 240 volts, 3-phase, 60-cycle in sheds A & B A.C., 440 volts, 3-phase, 60-cycle in sheds C & D D.C., 120/240 v. in sheds C & D		
Fire Protection (Other than City)	One 40-gallon, soda-acid cart, hand extingusiher, and 18-inch suction manholes.		
Remarks	Open area on pier provides 200,000 sq. ft. of additional storage space. (Cargo Doors Cont.) twenty-six 16 by 16 feet; others: twenty-eight 15 by 10 feet; twenty-eight 16 by 16 feet (Railway Connections Cont.) three tracks in center lead to 7 depressed tracks serving transit sheds "C" and "D", total length 6,600 feet.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	58		
Name	Santa Fe Car Ferry Slip (Facility #265)		
Location on Waterfront	North of foot of 4th Street extended.		
Owned by	San Francisco Port Commission		
Operated by	Atchison, Topeka and Santa Fe Railway		
Purpose for which Used	Transfer of railroad cars to and from car floats.		
Type of Construction	Timber pile, timber deck; timber ferry rack with float bridge.		
Description	Face (feet)	East Side of Slip (feet)	West Side of Slip (feet)
Dimensions	car float slip	370	380
Depth Alongside at MLLW	25		20
Usable Berthing Space			380
Width of Apron	Open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space	None		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	Atchison, Topeka and Santa Fe Railway: three surface tracks extend to float bridge; one 560-foot surface track on west side of slip.		
Highway Connections	Via China Basin Street (marginal), asphalt, 72 feet wide from 3rd Street (arterial).		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None		
Remarks	Car floats operate between this transfer bridge and Alameda, Richmond, and Oakland California.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	59		
Name	Pier No. 54		
Location on Waterfront	Foot of Fourth Street extended.		
Owned by	San Francisco Port Commission		
Operated by	Acme Export Packing Co., Hills Truck Line		
Purpose for which Used	Shop and truck terminal		
Type of Construction	Concrete pile, concrete deck. Constructed in 1911 and 1914.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	150	770	700
Depth Alongside at MLLW	25	25	25
Usable Berthing Space	150	770	700
Width of Apron	15	25	23
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	364		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One-timber frame, wood covered.		
Length and Width (Feet)	695 by 102		
Height Inside (Feet)	21		
Floor Area for Cargo (Sq. Ft.)	70,000		
Load Capacity per Sq.Ft. (Lbs.)	364		
Cargo Doors	Shipside: thirty 12 by 18 feet; others: (See Remarks)		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 4"/3" main, 10- 2-inch lines (water)		
Railway Connections	Belt Railroad: one 680 foot depressed track on upper apron.		
Highway Connections	Via China Basin Street (marginal), asphalt, 66 feet wide		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	One-40 gallon, soda-acid cart, hand extinguishers, and 18-inch suction manholes.		
Remarks	(Cargo Doors Cont.) two 18 feet wide; street side: one 20-feet wide.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	60		
Name	Pier No. 54 Annex		
Location on Waterfront	Foot of Fourth Street extended.		
Owned by	San Francisco Port Commission		
Operated by			
Purpose for which Used	Not in use :+:		
Type of Construction	Timber bulkhead, solid fill, with timber pile, timber-decked extension.		
Description	Face (feet)		
Dimensions	587		
Depth Alongside at MLLW	20		
Usable Berthing Space	587		
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	350		
Lighted or Unlighted	Lighted		
Storage Space	None		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	None		
Highway Connections	Via China Basin Street (marginal), asphalt, 66 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	One 40-gallon, soda-acid cart.		
Remarks	The bulkhead has been condemned.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	61		
Name	Pier No. 64 North.		
Location on Waterfront	Foot of 16th St. extended.		
Owned by	San Francisco Port Commission		
Operated by	Triple A Machine Shop, Inc.		
Purpose for which Used	Mooring vessels for repair.		
Type of Construction	Timber pile, asphalt-surfaced timber deck; 199 foot bulkhead on upper side with depth of 25 feet alongside. Constructed in 1911.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	48 + 130	408 + 240	719
Depth Alongside at MLLW	30	25	25
Usable Berthing Space	48	408 + 240	719
Width of Apron	Open	See Remarks	See Remarks
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	338		
Lighted or Unlighted	Lighted		
Storage Space	None		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 65 ton, electric, traveling, gantry crane with 100-foot boom. One 35 ton, electric, traveling, gantry crane with 100-foot boom.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 4-inch line for vessels undergoing repairs. (water) 6-2" outlets		
Railway Connections	None		
Highway Connections	Via China Basin St. (marginal), asphalt, 66-feet wide.		
Electric Current (Available to Vessels)	A.C., 220/440 volts, 3-phase, 60-cycle; D.C., 220/440 volts.		
Fire Protection (Other than City)	Hand extinguishers, and two 500 gpm fire pumps.		
Remarks	Repairs shops are located on inner portion of pier and in rear of bulkhead.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	62		
Name	Pier No. 64 South.		
Location on Waterfront	Foot of 16th St. extended.		
Owned by	San Francisco Port Commission		
Operated by	Triple A Machine Shop.		
Purpose for which Used	Berthing vessels undergoing repair; repair; receiving petroleum products, bunkering vessels.		
Type of Construction	Timber pile, asphalt-surfaced, timber deck.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	126	588	852
Depth Alongside at MLLW	25	25	20
Usable Berthing Space	126	588	852
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	333		
Lighted or Unlighted	Lighted		
Storage Space	None		
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 10 ton, gasoline truck crane with 75-foot boom and 6-foot jib-boom extension.		
Pipelines	Standard Oil Co.: one 8- and three 6-inch pipelines extend to 6 steel storage tanks.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 4-inch line (water)		
Railway Connections	None		
Highway Connections	Via China Basin Street (marginal), asphalt, 66 feet wide		
Electric Current (Available to Vessels)	A.C., 220/440 volts, 3-phase, 60-cycle; D.C., 220/440 volts.		
Fire Protection (Other than City)	Foam and water lines.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	63		
Name	Pier No. 66		
Location on Waterfront	Foot of 17th St. extended.		
Owned by	San Francisco Port Commission		
Operated by	Unassigned		
Purpose for which Used	Receipt of petroleum products; fueling small craft.		
Type of Construction	Timber pile, asphalt-surfaced, timber deck.		
Description	Face (feet)	South side (feet)	
Dimensions	293	150	
Depth Alongside at MLLW	20	20	
Usable Berthing Space	293	150	
Width of Apron	Open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space	None		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 4" watermain with 3-2" outlets		
Railway Connections	None		
Highway Connections	Via China Basin St. (marginal), asphalt, 66 feet wide		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Foam lines, hose reels, and two 40-gallon chemical carts.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	64		
Name	Bethlehem Pier No. 1		
Location on Waterfront	Central Basin, at foot of 19th St. extended.		
Owned by	San Francisco Port Commission, to south line of 18th Street extended, Bethl. Stl. Co. owns remainder		
Operated by	Bethlehem Steel Co.; Shipbuilding Div.		
Purpose for which Used	Mooring Vessels.		
Type of Construction	Timber pile, timber-decked, shore wharf.		
Description	Face (feet)	East Side (feet)	Bulkhead on South side
Dimensions	290	400	115 + 125
Depth Alongside at MLLW	15	15	15
Usable Berthing Space	290	400	115 + 125
Width of Apron	Open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	300		
Lighted or Unlighted	unlighted		
Storage Space	none		
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	none		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 3-inch line. (water)		
Railway Connections	None		
Highway Connections	Via plant road from 20th St. (approach), asphalt, 40 feet wide, from 3rd St. (arterial).		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, 3-phase, 60-cycle/		
Fire Protection (Other than City)	Plant firefighting equipment, hydrant, hose, hand extinguisher, 40-gallon, foam and watchmen.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	65		
Name	Bethlehem Pier No. 3		
Location on Waterfront	At foot of 19th Street extended		
Owned by	San Francisco Port Commission to south line of 18 th Street extended, Beth. Stl. Co. owns remainder		
Operated by	Bethlehem Steel Co., Shipbuilding Div.		
Purpose for which Used	Mooring Vessels, ship repair		
Type of Construction	Timber pile, timber deck.		
Description	Face (feet)	West side (feet)	East side (feet)
Dimensions	44	695	655
Depth Alongside at MLLW	25-16	16-9	25
Usable Berthing Space		695	655
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	100		
Lighted or Unlighted	unlighted		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 3-inch line. (water)		
Railway Connections	None.		
Highway Connections	Via plant road from 20th St. (approach), asphalt, 40 feet wide, from 3rd St. (arterial).		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C. 110/220 volts. 3-phase, 60-cycle; D.C. 230 volts.		
Fire Protection (Other than City)	Plant fire fighting equipment, hydrants, hose, hand extinguishers, 40-gallon foam and watchmen.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	66		
Name	Bethlehem Pier No. 4.		
Location on Waterfront	At foot of 19th St. extended.		
Owned by	San Francisco Port Commission to south line of 18th Street Beth. Stl. Co. owns remainder		
Operated by	Bethlehem Steel Co., Shipbuilding Div.		
Purpose for which Used	Mooring vessels for outfitting and repair.		
Type of Construction	Steel pile, concrete deck; fronted by timber fender system.		
Description	Face (feet).	West side (feet)	East side (feet)
Dimensions	44	655	615
Depth Alongside at MLLW	29-27	27	29-12
Usable Berthing Space		655	615
Width of Apron	Open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	lighted		
Storage Space	None		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 50 and one 30 ton, electric, traveling, revolving shipyard crane, each with 100-foot boom.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 3-inch line. (water)		
Railway Connections	None.		
Highway Connections	Via plant road from 20th St. (approach), asphalt, 40 feet wide from 3rd St. (arterial).		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C. 220/440 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Plant firefighting equipment, hydrants, hose, hand extinguishers, 40-gallon foam, and watchmen.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	67		
Name	Bethlehem Pier No. 5.		
Location on Waterfront	At foot of 19th Street extended.		
Owned by	San Francisco Port Commission		
Operated by	Bethlehem Steel Co., Shipbuilding Div.		
Purpose for which Used	Mooring floating dry dock.		
Type of Construction	Timber pile, timber deck; fronted by timber fender system.		
Description	Face (feet)	West side (feet)	East side (feet)
Dimensions	50	780 + 64	780 + 40
Depth Alongside at MLLW	39-23	39-45	42
Usable Berthing Space		See Remarks	See Remarks
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 35 ton, electric, traveling, revolving shipyard crane with 100 -foot boom.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Water supply for vessels undergoing repair.		
Railway Connections	None.		
Highway Connections	Via plant road from 20th Street (approach), asphalt, 40-foot wide, from 3rd Street (arterial).		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Plant firefighting equipment, hydrants, hose, hand extinguishers, 40-gallon foam, and watchmen.		
Remarks	Equipped with service lines for air, water, electricity, and gas. Floating Drydock No. 1 moored along west side, and Drydock No. 5 moored at inner end on east side.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	68		
Name	Bethlehem Pier No. 6.		
Location on Waterfront	At foot of 20th St. extended.		
Owned by	San Francisco Port Commission.		
Operated by	Bethlehem Steel Company - Shipbuilding Division		
Purpose for which Used	Drydock		
Type of Construction	Timber pile, timber deck; fronted by timber fender system.		
Description	Face (feet)	West side (feet)	East side (feet)
Dimensions	210		
Depth Alongside at MLLW	29		
Usable Berthing Space	--		
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Water supply for vessels undergoing repair.		
Railway Connections			
Highway Connections	Via plant road from 20th Street (approach), asphalt, 40-feet wide, from 3rd St. (arterial)		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, three-phase, 60-cycle.		
Fire Protection (Other than City)	Plant firefighting equipment, hydrants, hose, hand extinguishers, 40-gallon foam and acid carts, and watchmen.		
Remarks	Equipped with service lines for air, water, electricity, and gas.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	69		
Name	Bethlehem Pier No.7.		
Location on Waterfront	At foot of 20th St. extended.		
Owned by	San Francisco Port Commission		
Operated by	Unassigned		
Purpose for which Used			
Type of Construction	Timber pile, timber-decked pier extending at right angle from pier connecting Bethlehem Pier No. 8 with shore.		
Description	Face (feet)	West side (feet)	East side (feet)
Dimensions	60	1,647	1,647
Depth Alongside at MLLW	36-26	22-26	34-36
Usable Berthing Space			1,647
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open:			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 35-ton, electric, traveling, revolving shipyard crane with 100-foot boom.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Water supply for vessels undergoing repair.		
Railway Connections	None.		
Highway Connections	Via plant road from 20th St. (approach), asphalt, 40-feet wide, from 3rd St. (arterial).		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, three-phase, 60-cycle.		
Fire Protection (Other than City)	Plant firefighting equipment hydrants, hose, hand extinguishers, 40-gallon foam and acid carts, and watchmen.		
Remarks	Equipped with service lines for air, electricity, and gas - Four shipbuilding ways located south of approach.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	70		
Name	Bethlehem Pier No. 8		
Location on Waterfront	Central Basin, at foot of 20th St. extended.		
Owned by	San Francisco Port Commission		
Operated by	Unassigned		
Purpose for which Used			
Type of Construction	Steel-jacketed, concrete piles with timber deck supported on steel frames; pier extends at right angle to 475-by-120- to 170-foot pier connected with shore.		
Description	Face (feet)	West side	East side
Dimensions	80	1200'	1,300'
Depth Alongside at MLLW	35		
Usable Berthing Space		1200'	1,300'
Width of Apron	open		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 35 and one 20-ton, electric, traveling, revolving shipyard crane, each with 80-foot boom and 10-foot jib extension.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Water supply available to vessels undergoing repair.		
Railway Connections	None.		
Highway Connections	Via plant road from 20th St. (approach), asphalt, 40-feet wide, from 3rd St. (arterial).		
Electric Current (Available to Vessels)	A.C., 440 v, 3-phase, 60-cycle at substation.		
Fire Protection (Other than City)	Plant firefighting equipment, hydrants, hose, hand extinguishers, 40-gallon foam and acid carts, and watchmen.		
Remarks	Equipped with service lines for air, water, electricity, and gas.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	71		
Name	Pacific Gas & Electric Co. Wharf.		
Location on Waterfront	South of foot of 22nd St. extended.		
Owned by	San Francisco Port Commission.		
Operated by	Pacific Gas & Electric Co. Wharf.		
Purpose for which Used	Receipt of fuel for plant consumption.		
Type of Construction	Timber pile, timber-decked, offshore wharf with one 90-by-5-foot, and one 50-by 15-foot, timber-decked approach.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	210	29	29
Depth Alongside at MLLW	18	-	-
Usable Berthing Space	210	-	-
Width of Apron	open		
Height of Deck above MLLW	10.5		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	One 10-inch pipeline extends from Wharf to four steel storage tanks in rear, total capacity 160,000 barrels.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Water supply through 2-inch line.		
Railway Connections	None.		
Highway Connections	Via plant road from 22nd St. (approach), asphalt, 40 feet wide, from 3rd Street (arterial)		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Waterline and hose reel.		
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
71	Pacific Gas and Electric Company	4	160,000
Total		4	160,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map		72	
Name	Pier No. 72.		
Location on Waterfront	At foot of 23rd St.		
Owned by	San Francisco Port Commission.		
Operated by	Not operated		
Purpose for which Used	Not used. (See Remarks)		
Type of Construction	Timber pile, timber-decked, shore wharf.		
Description	Face (feet)		
Dimensions	713		
Depth Alongside at MLLW	25		
Usable Berthing Space	713		
Width of Apron	6 to 10		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	None.		
Highway Connections	Via 23rd St. (access), asphalt and gravel, 50 feet wide		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks	Not available for marine use.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	73		
Name	25th Street Car Float Slip		
Location on Waterfront	Foot of 25th Street		
Owned by	The Western Pacific Railroad Company		
Operated by	do		
Purpose for which Used	Transfer of railroad cars to and from car ferries.		
Type of Construction	Timber pile, timber deck; timber ferry rack with adjustable transfer bridge.		
Description	Face (feet)	Lower Side of Slip (feet)	Upper Side of Slip (feet)
Dimensions	car ferry slip	600	375
Depth Alongside at MLLW		23-12	12
Usable Berthing Space		600	375
Width of Apron		open	open
Height of Deck above MLLW		15	
Load Capacity per Sq. Ft. (Lbs.)		350	
Lighted or Unlighted		Lighted	
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	No water supply.		
Railway Connections	Western Pacific Railroad: car storage tracks in rear of slip; two surface tracks extend to transfer bridge.		
Highway Connections	None.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hydrants, 500-foot auxiliary fire hose, extinguishers, and water barrels.		
Remarks	Car floats operate between this transfer bridge and Oakland and Alameda.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	74																																																																																																																														
Name	Pier 80 Army Street Terminal																																																																																																																														
Location on Waterfront	Foot of Army Street																																																																																																																														
Owned by	San Francisco Port Commission																																																																																																																														
Operated by	Shed A: States Steamship Co. Shed B,C, & D: American President Lines																																																																																																																														
Purpose for which Used	Receipt and delivery of general cargo and container cargo.																																																																																																																														
Type of Construction	Prestressed concrete piling, concrete deck. Constructed in 1969.																																																																																																																														
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PIERS, WHARVES, AND DOCKS

Reference Number on Map	75		
Name	Pier No. 86		
Location on Waterfront	North side of Islais Creek; approximately 250 feet below 3rd Street Bridge.		
Owned by	San Francisco Port Commission		
Operated by	Shell Oil Company		
Purpose for which Used	Receiving and shipping petroleum products, bunkering vessels.		
Type of Construction	Timber pile, timber-decked, offshore wharf with 47- by 12-foot approach to upper side; row of timber mooring dolphins in line with face; timber catwalk extends along rear of mooring dolphins from sides of wharf.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	180	30	30
Depth Alongside at MLLW	20	20	20
Usable Berthing Space			
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	Limited		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 1-ton, hand operated, hose-handling crane.		
Pipelines	One 8-inch, two 6-inch, three 4-inch, and one 3-inch pipelines extend from wharf to 11 steel storage tanks in rear.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	No water supply available.		
Railway Connections	None		
Highway Connections	Truck access via gravel road (access), one block from 3rd Street (arterial).		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Chemical carts.		
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
75	Shell Oil Company	11	57,170
Total		11	57,170

PIERS, WHARVES, AND DOCKS

Reference Number on Map	76		
Name	F.E. Booth Company Pier		
Location on Waterfront	Northside of Islais Creek; approximately 150 feet above 3rd Street Bridge. (South end of Tennessee St. extended)		
Owned by	San Francisco Port Commission		
Operated by	F.E. Booth Company, Inc.		
Purpose for which Used	Receipt of fish.		
Type of Construction	Timber pile, timber-decked wharf with 180-by 10-foot, timber catwalk extending from upper side in line with face; additional berthing available along lower side of an 80-by 20-foot timber pier projecting outward from lower end of face of wharf.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	40		
Depth Alongside at MLLW	32		
Usable Berthing Space	220 w/catwalk		
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	Limited		
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 1-ton, electric crane with 20-foot boom for unloading fishing vessels.		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Water supply through one 2-inch line.		
(Available to Vessels)			
Railway Connections	Western Pacific Railroad: one surface track in rear of wharf.		
Highway Connections	Via asphalt road (access), 20 feet wide, from 3rd Street (arterial)		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Auxiliary fire hose and hydrants.		
Remarks	Fish-processing plant, in rear of wharf.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map		77	
Name		Copra Terminal Pier No. 84	
Location on Waterfront		North side of Islais Creek at foot of Iowa Street extended.	
Owned by			
Operated by		San Francisco Port Commission Cargill Company and the Texaco Company.	
Purpose for which Used		Receipt of bulk copra and petroleum products.	
Type of Construction		Timber pile, timber-decked, off-shore wharf with one 70- by 15-foot, and two 70- by 4-foot approaches; catwalks and row of mooring dolphins in line with face on lower and upper sides. Constructed in 1947.	
Description		Face (feet)	North (feet)
Dimensions	185 - 430	120	
Depth Alongside at MLLW	32		
Usable Berthing Space	185 - 430		
Width of Apron	6 & 30'		
Height of Deck above MLLW	12'		
Load Capacity per Sq. Ft. (lbs.)	325		
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One fixed and one traveling tower, each equipped with two pneumatic unloaders for transferring copra from ships' holds to automatic scale tank, then by blower system to a 12,000-ton capacity warehouse at rear at a rate of 180 tons per hour.		
Pipelines	Texaco, Inc. has five 6-inch pipelines extending from upper catwalk to seven steel storage tanks.		
Water Supply and Waste Treatment Facilities	Water supply is through one 2-inch line.		
(Available to Vessels)			
Railway Connections	Plant trackage in rear connects with Western Pacific Railroad.		
Highway Connections	Via Indiana Street (access), asphalt, 40 feet wide, from Army Street (marginal).		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Chemical carts and water hose.		
Remarks A copra-processing plant is located in rear.			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
77	Texaco, Inc.	7	38,710
Total		7	38,710

PIERS, WHARVES, AND DOCKS

Reference Number on Map	78		
Name	Pier No. 88		
Location on Waterfront	South side of Islais Creek, between 3rd Street Bridge and foot of Selby Street.		
Owned by	San Francisco Port Commission		
Operated by	Not operated		
Purpose for which Used	Not used		
Type of Construction	Timber pile, timber-decked, shore wharf; upper 700-foot portion is asphalt surfaced.		
Description	Face (feet)		
Dimensions	876 + 720		
Depth Alongside at MLLW	15 - 10		
Usable Berthing Space	876 + 720		
Width of Apron	Open		
Height of Deck above MLLW	13		
Load Capacity per Sq. Ft. (Lbs.)	317		
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)	2.82		
Surfacing Type	Asphalt paved		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	None		
(Available to Vessels)			
Railway Connections	Belt Railroad; one 1,550-foot surface track along rear of face - out of service connection from S.P. Rly. Quint St.		
Highway Connections	Via 3rd Street (marginal and arterial), asphalt, 80 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	79		
Name	Port of San Francisco Grain Terminal, Pier 90		
Location on Waterfront	Mouth side of Islais Creek East of 3rd Street Bridge.		
Owned by	San Francisco Port Commission		
Operated by	Stockton Elevators		
Purpose for which Used	Receiving and shipping bulk and sacked grain, feeds, chemicals, and fertilizers, auto storage		
Type of Construction	Timber pile, timber-decked shore wharf with timber fender systems. Constructed in 1920.		
Description	Face (feet)		
Dimensions	1,200		
Depth Alongside at MLLW	40		
Usable Berthing Space	1,200		
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	275-346		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	(See Remarks)		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Autos		
Area (Acres)	5.5		
Surfacing Type	Asphalt paving		
Tank (Other than Petroleum)	(See Remarks)		
Mechanical Handling Facilities	6 loading spout and conveyor; loading capacity 1,500 tons per hour.		
Pipelines	12" fuel oil line (intake) for P G & E power plant.		
Water Supply and Waste Treatment Facilities	4" water main, 6-2" outlets		
(Available to Vessels)			
Railway Connections	Belt Railroad: from Quint Street 3 tracks in rear of pier total 1600 feet.		
Highway Connections	Via Amador St., 40 feet wide, from 3rd street (marginal and arterial.)		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Portable Extinguishers, dry standpipes		
Remarks	Terminal has a 2,000,000 bushel grain elevator, rebuilt in 1971.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
79	Pacific Gas and Electric Company	7	280,000
Total		7	280,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	80		
Name	Pier No. 92		
Location on Waterfront	South side of Islais Creek.		
Owned by	San Francisco Port Commission		
Operated by	ABC Automotive, Baker Commodities and Royal Tallow.		
Purpose for which Used	Receiving automobiles, receiving and shipping bulk animal and vegetable oils.		
Type of Construction	Concrete pile and deck; apron is wood pile and deck. Constructed in 1924.		
Description	Face (feet)	East side (feet)	
Dimensions	702 + 166	100	
Depth Alongside at MLLW	35		
Usable Berthing Space	702 + 166		
Width of Apron	33 and open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	Bulk oil, automobiles		
Number and Type of Construction	one-irregularly shaped, steel frame, metal-covered, concrete floor.		
Length and Width (Feet)	338 by 163 - 20		
Height Inside (Feet)	12 & 27		
Floor Area for Cargo (Sq. Ft.)	63,700		
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors	Shipside: six 12 by 14 feet and three (See Remarks Below)		
Open			
Cargo Type	Automobiles		
Area (Acres)	3.62		
Surfacing Type	Asphalt paved		
Tank (Other than Petroleum)	Ten steel tallow tanks.		
Mechanical Handling Facilities	None		
Pipelines	Two 8-inch pipelines extend from wharf to ten steel storage tanks.		
Water Supply and Waste Treatment Facilities	Water supply is through one 4"-main, 3- 2-inch lines.		
Available to Vessels)			
Railway Connections	Belt Railroad from Quint Street two surface tracks along face, total length 1,400 feet; surface tracks in rear of shed.		
Highway Connections	Via Amador St. 40 feet wide, from 3rd Street (marginal and arterial)		
Electric Current (Available to Vessels)	A.C. 120/240 v. single phase, 60-cycle		
Fire Protection (Other than City)	40-gallon chemical carts.		
Remarks	(Cargo Doors Cont.) 16 by 14 feet. West side: three 16 by 14 feet. South side: nine 12 by 10 feet.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	81		
Name	Pier No. 94		
Location on Waterfront	South side of Islais Creek		
Owned by	San Francisco Port Commission		
Operated by	American President Lines		
Purpose for which Used	Receipt and delivery of container cargo.		
Type of Construction	(See Remarks)		
Description	East face	North face	
Dimensions	1620'	1430'	
Depth Alongside at MLLW	40'	40'	
Usable Berthing Space	1620'	1430'	
Width of Apron			
Height of Deck above MLLW	13'	13'	
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Containers		
Area (Acres)	46		
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	4 containers cranes (on rails)		
Pipelines			
Water Supply and Waste Treatment Facilities			
Railway Connections	Southern Pacific RR Co. operated. Rail connects westward to Quint Street, lead		
Highway Connections	Amador Street, marginal, to 3rd Street, arterial		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks	Facility to be constructed in the near future.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	82		
Name	Pier 96 Lash Terminal		
Location on Waterfront	Foot of Jennings Street, Northside of India Basin		
Owned by	San Francisco Port Commission		
Operated by	Pacific Far East Lines		
Purpose for which Used	For operating Lash & Container Cargo		
Type of Construction	Prestressed concrete piles & concrete deck, steel sheet pile bulkhead		
Description	Face (feet)	Upper side (feet)	
Dimensions	1740	1570	
Depth Alongside at MLLW	38	14	
Usable Berthing Space	1740	1570	
Width of Apron	Open	25'-9"	
Height of Deck above MLLW	14	14	
Load Capacity per Sq. Ft. (Lbs.)	800 on front Apron; 500 on apron along lighted basin		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	Transit shed		
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction	one steel frame, metal cladding		
Length and Width (Feet)	850 by 265 (irregular)		
Height Inside (Feet)	38		
Floor Area for Cargo (Sq. Ft.)	182,300		
Load Capacity per Sq.Ft. (Lbs.)	500 Also container Loading		
Cargo Doors	Shipside- Fourteen 18'by 18'rear nine 18'by 18'		
Open			
Cargo Type	Containers	Lighter Basin	
Area (Acres)	9.94	11.0	
Surfacing Type	Asphalt paving	water	
Tank (Other than Petroleum)			
Mechanical Handling Facilities	2 cranes - 30 T cap 115' reach - rail mounted 2 heavy lift gantries - 50 T cap - rail mounted 5 (5 Tcap.) flying forks for lighter loading		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	12" water main, 8-2" outlet		
Railway Connections	South. Pacific from Quint Street to Cargo Way; track length 800 feet on apron along lighted basin; 2500 feet behind transit shed; 1500 feet in container yard.		
Highway Connections	Via 3rd Street (arterial)& cargo way (access) paved, 2 lanes		
Electric Current (Available to Vessels)	A.C., 440 v., 3-phase, 60-cycle		
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	83		
Name	Anderson and Cristofani North Pier.		
Location on Waterfront	India Basin, near intersection of Innes Avenue and Griffith Street.		
Owned by	Anderson and Cristofani.		
Operated by	Anderson and Cristofani.		
Purpose for which Used	Berthing vessels undergoing repair.		
Type of Construction	Timber pile, timber deck.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	18 + 12	60 + 80	140
Depth Alongside at MLLW	14	14 - 6	14 - 6
Usable Berthing Space	18	140	140
Width of Apron	Open		
Height of Deck above MLLW	8		
Load Capacity per Sq. Ft. (Lbs.)	250		
Lighted or Unlighted	Unlighted		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to vessels)	Through small line.		
Railway Connections	None.		
Highway Connections	Via Innes Avenue (marginal), asphalt, 40 feet wide, from Hunters Point Blvd.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hand extinguishers.		
Remarks	Three marine railways located adjacent to inner end of lower side, and one marine railway located adjacent to inner end of upper side.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	84		
Name	Anderson and Cristofani South Pier.		
Location on Waterfront	India Basin, near intersection of Innes Avenue and Griffith Street.		
Owned by	Anderson and Christofani.		
Operated by	Anderson and Christofani.		
Purpose for which Used	Mooring vessels undergoing repairs.		
Type of Construction	Timber pile, timber deck.		
Description	Face (feet)		
Dimensions	25 + 25		
Depth Alongside at MLLW	14		
Usable Berthing Space	25 + 25		
Width of Apron	Open		
Height of Deck above MLLW	8		
Load Capacity per Sq. Ft. (Lbs.)	250		
Lighted or Unlighted	Unlighted		
Storage Space	None		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to vessels)	Through small line.		
Railway Connections	None.		
Highway Connections	Via Innes Avenue (marginal), asphalt, 40 feet wide, from Hunters Point Blvd.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hand extinguishers.		
Remarks	Marine railway at shore end of upper side.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	85		
Name	Pier 98 (Future)		
Location on Waterfront	India Basin		
Owned by	San Francisco Port Commission		
Operated by			
Purpose for which Used	Container cargo		
Type of Construction			
Description	Face (feet)	South side (feet)	
Dimensions	835	1600	
Depth Alongside at MLLW	-	40	
Usable Berthing Space	-	1600	
Width of Apron	-		
Height of Deck above MLLW	13		
Load Capacity per Sq. Ft. (Lbs.)	Container loading		
Lighted or Unlighted	lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Containers		
Area (Acres)	16 ¹ / ₂		
Surfacing Type	Asphalt paving		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	2 Container-cranes (on rails)		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	Rails connect NWly to Quint St. lead		
Highway Connections	Cargo Way (formerly Arthur Ave.), marginal to 3rd St. arterial		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks	This is a future pier to be built.		





B A Y O F S A

10. PORT OF REDWOOD CITY

a. Existing port facilities.

(1) Redwood City Harbor is located on the west side of San Francisco Bay near its southern end. The harbor, which consists of a channel and two turning basins, is situated within the confines of Redwood Creek, approximately 17 nautical miles from the city of San Francisco. From within the community of Redwood City, more than 3 nautical miles inland from the mouth, Redwood Creek passes through a marshy stretch of land and enters San Francisco Bay at Redwood Point, 4 nautical miles below the transbay San Mateo-Hayward Bridge. The area consists of 76 acres of improved property on the east side of the harbor and 106 acres of unimproved property on the west side, part of which is available for industrial purposes.

(2) Nine piers, wharves and docks are described in this report for the Port of Redwood City. Each of these nine facilities are described in detail under a reference number in the table "Piers, Wharves and Docks" on the following pages. The reference number assigned to each facility is used to designate its location on the accompanying map, Plate 16.

(3) The chief products handled by the port are cement, gypsum, salt, lumber and petroleum products. General cargo is handled at the Port of Redwood City Wharf No. 1 (500 feet of berthing space) and Wharf No. 2 (355 feet of berthing space) which have a dredged depth of 32 feet alongside. These two wharfs have a total of 61,800 square feet of transit-shed space and pipeline connections for bulk cement and petroleum. Wharf No. 3 is an open wharf, 450 feet long and is used primarily for handling lumber and gypsum rock. It also has petroleum pipelines. Wharf No. 5 has 500 feet of berthing space and is designed to accommodate oil tankers and freighters and to handle heavy loads. It has 33 feet of depth alongside.

(4) The Board of Port Commissioners of the city of Redwood City owns and operates approximately 29 acres of open storage area located between turning basin No. 2 and Harbor Boulevard. This area is available to the public for storing commodities not requiring protection from the weather and is served by improved roadways and railroad tracks. Other terminal operators at the port, Ideal Cement and Leslie Salt Companies, have open storage areas to meet their operational requirements; these areas are not available to the public.

b. Planned and potential port facilities. At this time the Port of Redwood City has no definite plans for future development. The Ideal Cement Company has ceased operation, so this site probably will be converted to a port use. The port also contemplates development of the 106 acres of port-owned property directly across Redwood Creek from the existing port facilities. The type of development to be accommodated at these sites has not yet been determined.

c. Railroad service. Rail tracks serving the waterfront facilities at the Port of Redwood City connect with the Southern Pacific Company (Southern Pacific Lines). There are no rail yards in the port area.

d. Existing and planned channels.

(1) The existing project, shown on Plate 17, provides for dredging a channel 500 feet wide and 30 feet deep across San Bruno Shoal in San Francisco Bay; a channel 300 feet wide and 30 feet deep to vicinity of confluence of West Point Slough and Redwood Creek, with a basin at that location 2,200 feet long and from 400 to 900 feet wide; thence, a channel 400 feet wide, 30 feet deep, and approximately 1,300 feet long flaring to a second turning basin approximately 900 feet wide, 1,700 feet long, and 30 feet deep; thence, a channel 150 feet wide and 5 feet deep extending to Steinberger Slough. The project was completed in 1965 and is under maintenance.

(2) A general investigation study of Redwood City Harbor was authorized on 24 June 1965. This study, which is now in progress, may result in recommendations for modifying the existing project, if appropriate, to better serve deep-draft shipping needs.



Redwood City Harbor. The southbay's only deep water port handles primarily bulk cargo.

LIST OF PIERS, WHARVES, AND DOCKS AT REDWOOD CITY, CALIFORNIA

Ref	Facilities	Page
1	Ideal Cement Company Shell Unloading Wharf	110
2	Ideal Cement Company Bulk Cement Loading Wharf	111
3	Idean Cement Company Oil Wharf	112
4	Port of Redwood City Wharves Nos. 1 and 2	113
5	Port of Redwood City Wharf No. 3	114
6	Oil Dock	115
7	Port of Redwood City Wharf No. 5	116
8	Leslie Salt Company Salt Elevator Wharf	117
9	Granite Rock	118

PIERS, WHARVES, AND DOCKS

Reference Number on Map	1		
Name	Ideal Cement Co. Shell Unloading Wharf.		
Location on Waterfront	Left bank of Westpoint Slough, near junction with Redwood Creek.		
Owned by	Ideal Cement Co.		
Operated by	Not operated		
Purpose for which Used	Not in use.		
Type of Construction	Concrete pile, concrete-decked, offshore wharf with 60-by 30-foot approach; fronted by timber fender piles. Rebuilt about 1958.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	640	12	12
Depth Alongside at MLLW	12	12	12
Usable Berthing Space	640		
Width of Apron	open		
Height of Deck above MLLW	13		
Load Capacity per Sq. Ft. (Lbs.)	250		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One fixed, electric, bridge crane on shore at right angle to wharf, equipped with a 4-cubic yard bucket; bridge extends from barge berth to material bins at grinding mill in rear.		
Pipelines			
Water Supply and Waste Treatment Facilities			
(Available to Vessels)			
Railway Connections	Plant trackage connects with Southern Pacific Co.		
Highway Connections	Via Harbor Blvd. (access), asphalt, 40 feet wide; from Bayshore Freeway (U.S. Hwy. No. 101 Bypass-arterial.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	2		
Name	Ideal Cement Co. Bulk Cement Loading Wharf.		
Location on Waterfront	Right bank of Redwood Creek, 700 feet above mouth of Westpoint Slough		
Owned by	Ideal Cement Co.		
Operated by	Not operated		
Purpose for which Used	Not in use		
Type of Construction	Timber pile, timber-decked, offshore wharf with one 100-by 40-foot and one 100-by 10-foot approach. Constructed 1925. Rebuilt about 1955.		
Description	Face (feet)		
Dimensions	496	12	12
Depth Alongside at MLLW	18	18	18
Usable Berthing Space	496		
Width of Apron	Open		
Height of Deck above MLLW	12.5		
Load Capacity per Sq. Ft. (Lbs.)	250		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	Two 10-inch, pneumatic pipelines extend to wharf from 6 cement storage silos in area.		
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	Plant trackage connects with Southern Pacific Co.		
Highway Connections	Via Harbor Blvd. (access), asphalt, 40 feet wide; from Bayshore Freeway (U.S. Hwy No. 101 Bypass-arterial).		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks	The total capacity of the cement silos is 100,655 tons.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	3		
Name	Ideal Cement Co. Oil Wharf.		
Location on Waterfront	Right bank of Redwood Creek, 1,100 feet above mouth of Westpoint Slough.		
Owned by	Ideal Cement Co.		
Operated by	Not operated.		
Purpose for which Used	Not in use		
Type of Construction	Timber pile, timber-decked, offshore wharf with 120- by 6-foot timber approach; timber mooring dolphins in line with face.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	20		
Depth Alongside at MLLW	16		
Usable Berthing Space	150 w/dolph.		
Width of Apron	open		
Height of Deck above MLLW	12.5		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	Plant trackage connects with Southern Pacific Company.		
Highway Connections	Via Harbor Blvd. (access), asphalt, 40 feet wide; from Bayshore Freeway (U.S. Hwy. No. 101 Bypass-arterial.)		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks	A 150 psi 8" natural gas line connects plant to PG & E system.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	4		
Name	Port of Redwood City Wharves Nos. 1 and 2.		
Location on Waterfront	Right bank of Redwood Creek, approximately 2.3 miles above mouth.		
Owned by	City of Redwood City.		
Operated by	Board of Port Commissioners of City of Redwood City.		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade; receipt of petroleum products; shipment of bulk cement.		
Type of Construction	Timber pile, asphalt-surfaced timber-decked wharf; fronted by timber fender system. Constructed in 1937. Additions in 1942, 1946 and 1953. Wharf 2 rebuilt in 1967.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	855		
Depth Alongside at MLLW	32		
Usable Berthing Space	855		
Width of Apron	22 and open		
Height of Deck above MLLW	15.3		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted.		
Storage Space (Covered (Transit Sheds), Cargo Type (Bulk, Container, Etc.))	One-part steel and timber frame metal-covered, asphalt-surfaced floor.		One-timber frame, metal covered, asphalt- surfaced floor.
Number and Type of Construction			
Length and Width (Feet)	100 x 325		300 by 100
Height Inside (Feet)	14-22		15-28
Floor Area for Cargo (Sq. Ft.)	32,400		29,400
Load Capacity per Sq.Ft. (Lbs.)	500		1,000
Cargo Doors	(Shipside: 4-14x10 ft.,		(Rail side: 4-14x11
Open	(2-13x11 ft. rear:		(ft., and 1-14x13
Cargo Type	(4-14x10 ft., 2-13x11 ft.,		(ft.; rear; 5-14x11
Area (Acres)	(end: 1-17x14 ft. and		(ft. 1-16x14 ft. at
Surfacing Type	(1-14x14 ft.		(each end
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Tractors, trailers, and forklift trucks.		
Pipelines	(See Remarks)		
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	One 400-foot, surface track at car-floor level between transit sheds; connects with Southern Pacific Co.		
Highway Connections	Via Harbor Blvd. (access), asphalt, 40 feet wide; from Bayshore Freeway (U.S. Hwy. No. 101 Bypass-arterial).		
Electric Current (Available to Vessels)	Through 4-inch metered line with 2 1/2-inch connections. (Water Supply) Electric Current AC 110 & 220 V. 60 cycle		
Fire Protection (Other than City)	Hose connections on wharves to saltwater pumping system, hand extinguishers, and automatic sprinkler system in transit sheds. Foam Machine.		
Remarks	Permanente Cement Co.: three 10-inch blower pipelines from wharf to 6 cement silos, total storage capacity 10,000 tons; one 8-inch pipeline from wharf to one 12,000-bbl., steel, fuel oil storage tank. Ideal Cement Co. : two 12-inch blower pipelines to wharf #1 from silos in rear.		

REDWOOD CITY HARBOR

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
4	Permanente Cement Co. (For fuel oil for plant consumption.)	1	12,000
Total		1	12,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	5		
Name	Port of Redwood City Wharf No. 3		
Location on Waterfront	Right bank of Redwood Creek approximately 2.4 miles above mouth.		
Owned by	City of Redwood City.		
Operated by	Board of Port Commissioners of City of Redwood City.		
Purpose for which Used	Receipt of gypsum rock by self-unloading vessels, lumber, and petroleum products.		
Type of Construction	Timber pile, asphalt-surfaced, timber-decked, offshore wharf with three 50-foot-wide approaches; shore end of center approach is at truck floor-level; face of wharf is fronted by timber fender piles. Constructed 1942. Rebuilt in 1945.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	450	120	110
Depth Alongside at MLLW	32		
Usable Berthing Space	450		
Width of Apron	60		
Height of Deck above MLLW	15.3		
Load Capacity per Sq. Ft. (Lbs.)	450		
Lighted or Unlighted	Lighted.		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One movable hoppers for loading trucks with gypsum rock; and one conveyor for handling lumber.		
Pipelines	Union Oil Co.: Two 6-inch pipelines extend from wharf and connect with same pipelines and storage tanks that are connected with the oil dock.		
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	Two surface tracks in rear of wharf, total length 900 feet; connect with Southern Pacific Company.		
Highway Connections	Via Harbor Blvd. (access), asphalt, 40 feet wide; from Bayshore Freeway (U.S. Hwy. No. 101 Bypass-arterial.)		
Electric Current (Available to Vessels)	Through 4-inch metered line with 2 1/2 inch connections. A.C., 110/220 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Hose connections to salt water pumping system.		
Remarks	Hubbard & Johnson Lumber Co. operates approximately 11 acres of open lumber storage area in rear, and at rear of transit sheds on the adjacent wharf. The Board of Port Commissioners of Redwood City owns and operates approximately 29 acres of open storage space located between Harbor Blvd. and Turning Basin No. 2.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	6		
Name	Oil Dock.		
Location on Waterfront	Right bank of Redwood Creek, approximately 2.6 miles above mouth.		
Owned by	Union Oil Company of California and Shell Oil Company. (See Remarks)		
Operated by			
Purpose for which Used Formerly	Receipt of petroleum products. (See Remarks)		
Type of Construction	Timber pile, timber-decked, offshore wharf with four mooring dolphins in line with face; 170- by 9-foot timber walkway and pipe trestle approach from shore. Constructed in 1950.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	20		
Depth Alongside at MLLW	22		
Usable Berthing Space	160 w/dolph.		
Width of Apron	Open		
Height of Deck above MLLW	15.5		
Load Capacity per Sq. Ft. (Lbs.)	250		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	(See Remarks)		
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	None.		
Highway Connections	Via Harbor Blvd. (access), asphalt, 40 feet wide: from Bayshore Freeway (U.S. Hwy. No. 101 Bypass-arterial)		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hand extinguishers.		
Remarks	Union Oil Co.: two 6-inch pipelines extend from wharf to 3 steel storage tanks, total capacity 33,571 barrels. Ground leased from Board of Port Commissioners of City of Redwood City. Not used now. Future use not anticipated to be for petroleum, but for liquid chemicals.		

REDWOOD CITY HARBOR

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
6	UNION OIL CO.. (NOT IN USE)	3	33,571
Total		3	33,571

PIERS, WHARVES, AND DOCKS

Reference Number on Map	7		
Name	Port of Redwood City Wharf No. 5		
Location on Waterfront	Right bank of Redwood Creek, approximately 2.7 miles above the mouth.		
Owned by	City of Redwood City.		
Operated by	Board of Port Commissioners of City of Redwood City		
Purpose for which Used	Receipt and shipment of general cargo and lumber; receipt of petroleum products.		
Type of Construction	All reinforced concrete, prestressed. Constructed in 1965.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	500		
Depth Alongside at MLLW	33		
Usable Berthing Space			
Width of Apron	60		
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None		
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	General		
Area (Acres)	7		
Surfacing Type	Unsurfaced		
Tank (Other than Petroleum)	None		
Mechanical Handling Facilities	None		
Pipelines	(See Remarks)		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Fresh water supply.		
Railway Connections	Same as Wharf No. 3		
Highway Connections	Same as Wharf No. 3		
Electric Current (Available to Vessels)	110-220 V. AC.		
Fire Protection (Other than City)	Fresh water hydrants on wharf. Foam machine.		
Remarks	Five 10" pipelines to Texaco for petroleum products (jet fuel, diesel fuel and gasoline.)		

OIL-HANDLING FACILITIES

Reference Number On Map ,	Operator and/or user		
		Number	Capacity (barrels)
7	Texaco, Inc.	4	95,000
		2	28,000
		1	65,000
		1	131,000
		1	41,000
Total		9	360,000

PIERS, WHARVES, AND DOCKS

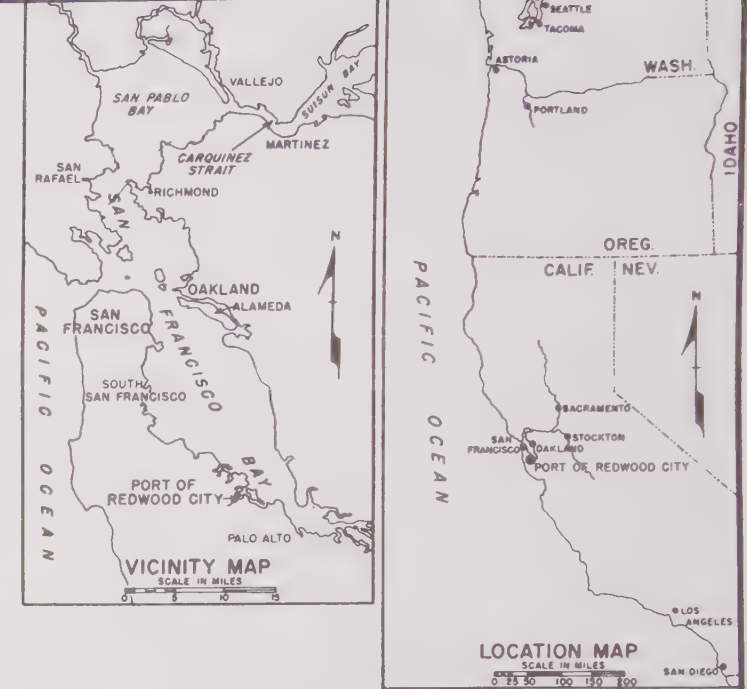
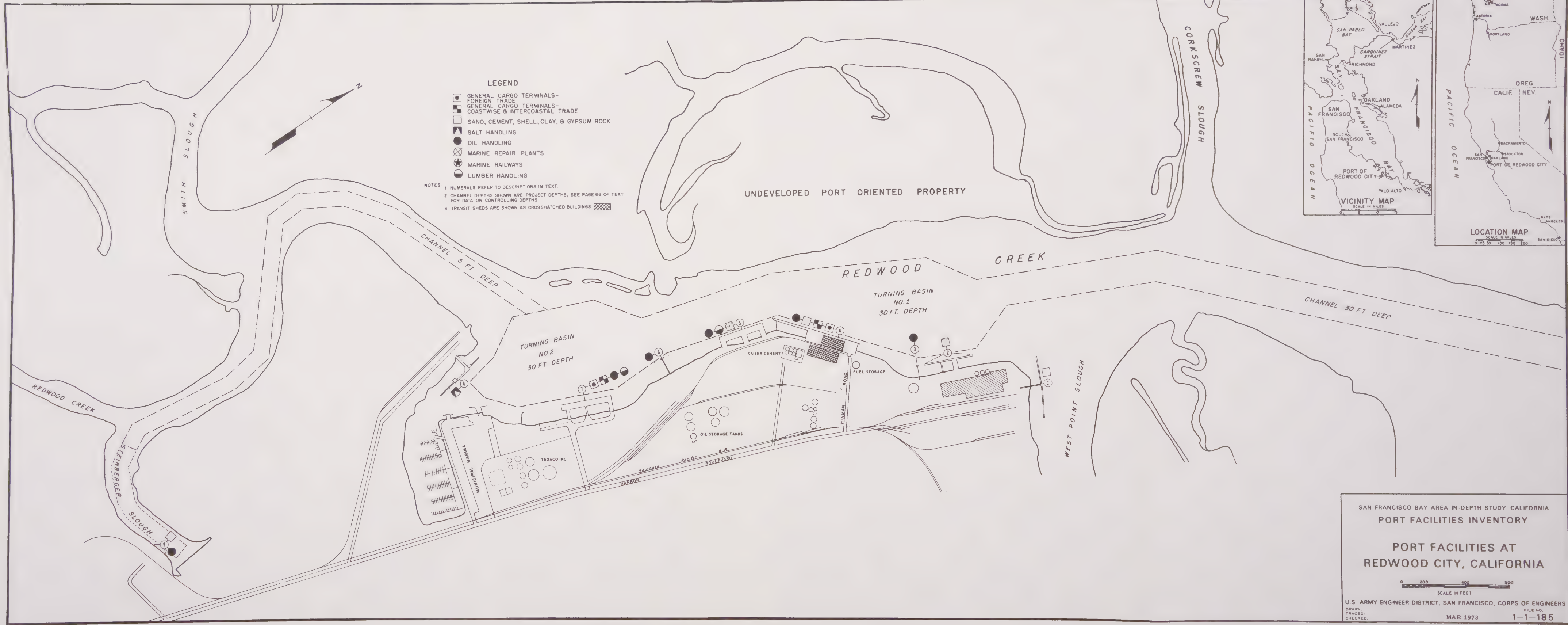
Reference Number on Map	8		
Name	Leslie Salt Co. Salt Elevator Wharf.		
Location on Waterfront	Left bank of Boundary Slough, at junction with Redwood Cr.		
Owned by	Leslie Salt Co.		
Operated by	Leslie Terminal Co.		
Purpose for which Used	Shipment of crude bluk salt.		
Type of Construction	Concrete and timber pile, concrete decked, offshore wharf with 150- by 20-foot timber approach. Catwalks extend from lower and upper sides behind rows of mooring dolphins in line with wharf face. Constructed in 1950.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	200	15	15
Depth Alongside at MLLW	33		
Usable Berthing Space	569 w/dolphins		
Width of Apron	Open		
Height of Deck above MLLW	16		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two electrically operated towers in rear of catwalks with hinged cantilevered belt conveyor booms reaching 33 feet beyond edge of wharf. Booms equipped with telescopic loading chutes with cargo trimmers. Towers serves by 36-inch belt conveyor system from under-track hoppers and stockpile on shore. Loading capacity-is 500 to 700 tons per hour.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	Southern Pacific Co.: two surface tracks in rear of wharf, total length 1,000 feet.		
Highway Connections	Via private road, asphalt, 24 feet wide; from Harbor Blvd. (arterial), asphalt, 40 feet wide.		
Electric Current (Available to Vessels)	One 4-inch, fresh waterline and one 6-inch, salt waterline with 2-inch connections.		
Fire Protection (Other than City)	None.		
Remarks	Storage space available for 500,000 tons of salt in rear of wharf.		

PIERS, WHARVES, AND DOCKS

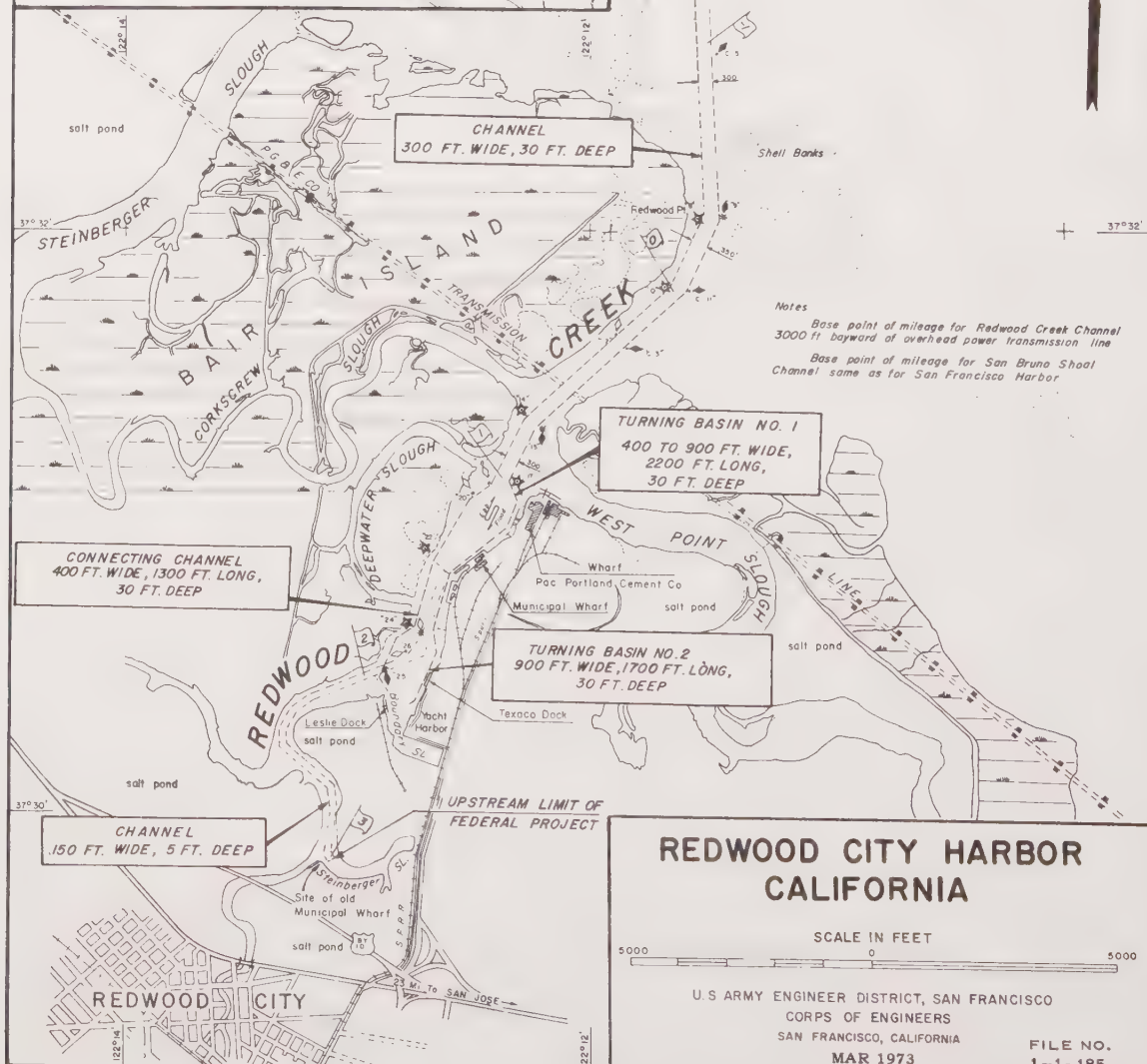
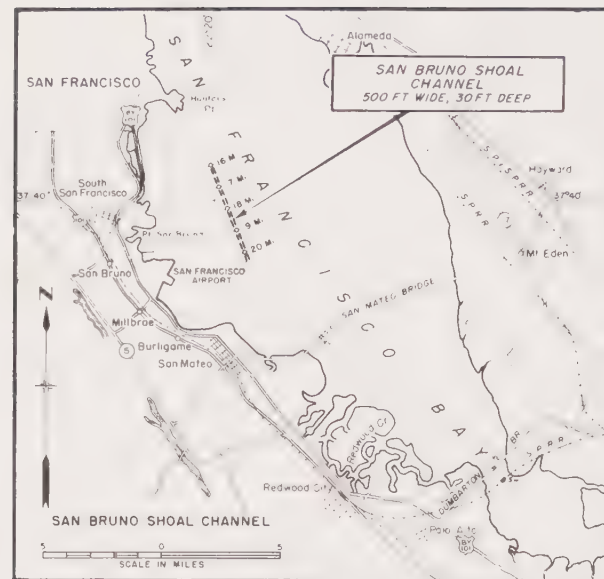
Reference Number on Map	9		
Name	Granite Rock		
Location on Waterfront	Left bank of Steinberger Slough, 1,300 feet above junction with Redwood Creek.		
Owned by	Granite Rock		
Operated by			
Purpose for which Used	Receipt of fuel oil and sand.		
Type of Construction	Steel sheet pile bulkhead with solid fill.		
Description	Face (feet)		
Dimensions	140		
Depth Alongside at MLLW	7		
Usable Berthing Space	140		
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One gasoline, crawler crane with 1 1/2-cu. yd. bucket; one 10-cu. yd. hopper for loading trucks with sand.		
Pipelines	One 6-inch pipeline extends from wharf to 4 steel storage tanks, total capacity 14,000 barrels.		
Water Supply and Waste Treatment Facilities			
(Available to Vessels)			
Railway Connections	Southern Pacific Company serves plant in rear of wharf.		
Highway Connections	Via private road, asphalt, 24 feet wide; from Harbor Blvd. (arterial), asphalt, 40 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)			
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
9	Granite Rock	4	14,000
Total		4	14,000



SAN FRANCISCO BAY AREA IN-DEPTH STUDY CALIFORNIA
PORT FACILITIES INVENTORY
PORT FACILITIES AT
REDWOOD CITY, CALIFORNIA
SCALE IN FEET
0 200 400 600
U.S. ARMY ENGINEER DISTRICT, SAN FRANCISCO, CORPS OF ENGINEERS
DRAWN: [blank]
TRACED: [blank]
CHECKED: [blank]
MAR 1973
FILE NO. 1-1-185
PLATE 16



11. PORT OF OAKLAND

a. Existing port facilities. Oakland is located on the eastern shore of San Francisco Bay, opposite San Francisco. Port waterfront facilities extend from the Outer Harbor which is located immediately south of the San Francisco-Oakland Bay Bridge to Inner Harbor facility located along the Tidal Canal connecting the Oakland-Alameda Estuary with San Leandro Bay. Total channel length in the Oakland-Alameda Estuary is 8-1/2 miles from San Francisco Bay to San Leandro Bay.

(1) Fifty-four piers, wharves and docks are described in this report for the Port of Oakland. Included are the facilities located in the four major terminal areas: Outer Harbor, Seventh Street Terminal, Middle Harbor and Inner Harbor. Each of these fifty-four facilities is described in detail under a reference number in the table "Piers, Wharves, and Docks" on the following pages. The reference number assigned to each facility is used to designate its location on Plate 18.

(2) Four facilities are located in the Outer Harbor: the containerized operation of Sea-Land Service, the break-bulk operation of Howard Terminal, the GATX petrochemical handling facility, and the Oakland Oil Pier. The Sea-Land facility presently offers two longitudinal berths totaling 1,355 feet, three container cranes with 27.5-ton capacity and about 53 acres of container storage. It is planned to incorporate the 839-foot-long Berth 10 facility now being used for break-bulk operations. Another planned container operation will replace the existing GATX and Oil Pier facilities with a three-berth, 2,200-foot-long longitudinal wharf. This planned wharf will connect to the existing four-berth, break-bulk Howard Terminal facility to provide a continuous longitudinal wharf 4,200 feet in length.

(3) The Seventh Street Terminal features seven berths, with an eighth planned for the future. Five of the berths have been specifically constructed to handle containers, while two are designed to accommodate a combination of containerized and break-bulk cargoes. The two-berth Matson Terminal facility now provides 1,350 feet of longitudinal wharf, with plans for lengthening to 1,500 feet. An additional 700-foot-long berth is also planned, along with 18 acres of container storage area to provide a total ultimate storage area of 64 acres. Matson now operates two container cranes at their facility.

(4) The Oakland Container Terminal facility offers one 630-foot berth with a 40-ton capacity container crane and nine acres of container storage area. The third Seventh Street facility is operated by Marine Terminals Corporation and consists of four berths. Two of the berths are in line with the Oakland Container Terminal Wharf and total 1,532 feet in length. A 30-ton and a 40-ton capacity container crane operate at these berths. A 793-foot-long wharf at the facility provides a combined container and break-bulk berth, as does a 606-foot wharf.



Oakland Outer Harbor and Seventh Street Terminal. More than half the tonnage that Oakland handles is containerized cargo.

(5) In the Middle Harbor, Seatrain's one-berth, 700-foot-long wharf is being extended to 1,300 feet to provide two berths served by two 45-ton capacity container cranes and 33 acres of backup yard. Adjacent to the Seatrain facility, the port is presently constructing its 50-acre, two-berth Middle Harbor container facility. The new facility will provide 1,451 feet of longitudinal wharf extending from the Seatrain wharf. Two container cranes will operate at the facility.

(6) Inner Harbor Terminal facilities are devoted to break-bulk cargoes and special commodities. Grove Street has three berths averaging 570 feet in length and handles both break-bulk commodities and scrap steel. Market Street handles break-bulk cargo at its 570-foot berth and Howard Terminal's Piers 1 and 2 each handle break-bulk and scrap metal at their berths. Schnitzer Steel Co. loads shredded steel by a conveyor system at its 6th Street Pier. Two wharves (952 feet and 1,100 feet long) at the Ninth Avenue Terminal provide four berths for the handling of steel products and break-bulk commodities and dry granular-bulk commodities through a 600 tons per hour bulk loader.

(7) In total, there are fifty-four piers, wharves and docks at the Port of Oakland. Besides the sixteen facilities handling general cargo, two handle petroleum products; two receive sand and gravel by barge; seven handle scrap metal; one transfers freight cars to and from car floats and ferries; one each handles fish, sugar, petrochemicals and grain; two handle fabricated steel structures; nine make repairs to either large or small vessels; and four are used for mooring large vessels, towboats, fishing vessels or other types of small craft.

b. Planned and potential port facilities. The planned and potential facilities of the Port of Oakland are shown on Plates 19, 20 and 21, and described as follows:

(1) Planned Facilities.

(a) Area (1) - This area, including Berth 10, will be redesigned to accommodate all containerized operations.

(b) Area (2) - In this area (the GATX Terminal), it is planned that the wharf will be demolished and a new wharf constructed to accommodate two container berths. Several structures on the property will be removed and the area will be redeveloped to service containerized operations. The oil pier will be removed and relocated.

(c) Area (3) - One additional berth will become available as a result of new construction at the 7th Street Marine Terminal (berth F). In addition, two existing berths (D and E) will be lengthened from 675 feet to 800 feet each. This facility will have the capability of handling "Pan-max" size vessels (the maximum size vessel capable of transiting the Panama Canal).

(d) Area (4) - The Middle Harbor Terminal is currently under modification and construction, and operations are scheduled to commence in mid-1973. In conjunction with the Middle Harbor Terminal construction, it is planned to extend the Sea-train Wharf to provide a second berth at this facility. There will be a total of four containership berths at Middle Harbor Terminal when completed (including the Sea-train berths).

(2) Potential Facilities.

(a) Area (A) - If this property, a portion of the Oakland Army Terminal, is declared surplus it could be redeveloped for commercial marine terminal operations. This would yield five additional berths of limited length.

(b) Area (B) - This area, when declared surplus by the Army and developed, will provide five containership berths with 160 acres of backup area, usable by "Pan-max" ships.

(c) Area (C) - Combining port property with that of the Navy, a total of seven berths with sufficient backup area to support container operations could be developed. This would involve removing some Navy piers and some filling.

(d) Area (D) - Through removal of some or all of the finger piers in this area, sufficient backup area could be developed to support four container berths and two break-bulk berths.

(e) Area (E) - Some redevelopment may be necessary in this area to allow more efficient usage of the area. Clinton Basin has a good potential as a basin for LASH barges.

(f) In addition to the above, potential existing future marine terminal development in the North Harbor area is shown on Plate No. 21. The potential North Harbor area development contains approximately 400 acres.

c. Railroad service.

(1) The port area of Oakland-Alameda is served by three line-haul railroads: the Atchison, Topeka and Santa Fe Railway, the Southern Pacific Company (Southern Pacific Lines), and the Western Pacific Railroad; and by two switching carriers, the Alameda Belt Line and the Oakland Terminal Railway, each of which connects with the line-haul carriers. In addition, an industrial rail carrier (Howard Terminal Railway) operates about 2 miles of track in and contiguous with the Howard Terminal located in Oakland. The Northwestern Pacific Railroad also serves the San Francisco Bay Area by interchanging with the Southern Pacific Company at Schellville, California.

(2) The Western Pacific Railroad operates car-ferry service between Oakland, Alameda, and San Francisco; and the Atchison, Topeka and Santa Fe Railway between Oakland, Alameda, San Francisco, and Richmond, California.

(3) The tabulation on the following page gives details of the rail yards located in the port area; these yards are located on the accompanying Port Facilities Map, Plate 18, under lettered references shown in the tabulation.

PORT AND HARBOR FACILITIES

Ref. on Map	Railroad and Yard	Total Storage Capacity (cars)
<u>The Atchison, Topeka, and Santa Fe Railway</u>		
A	Oakland Yard (2)	153(5)
B	Wood Street Yard (1)	74(5)
<u>Southern Pacific Company</u>		
C	West Oakland (2)	2,660(6)
D	Oakland 16th Street Yard (2) (3)	1,703(6)
E	Emeryville (3)	419(6)
F	East Oakland (1) (3)	972(6)
G	Alameda-Main Street Yard (3)	125(6)
H	Alameda-Tilden Street Yard (3)	30(6)
<u>The Western Pacific Railroad</u>		
I	Oakland Yards (4)	1,500(7)
<u>Alameda Belt Line</u>		
J	Storage Yard (3)	535
<u>The Oakland Terminal Railway</u>		
K	Yerba Buena Yard	75

- (1) Assembly yard.
- (2) Classification yard.
- (3) Storage yard.
- (4) Total capacity - includes 412 cars for storage;
759 cars for hold and classification; and
358 cars for miscellaneous types of storage.
- (5) 50-foot cars.
- (6) 49-foot cars.
- (7) 52-foot cars.

d. Existing and planned channels.

(1) The existing project, shown on Plate 22, provides entrance channel to Oakland Outer Harbor, 35 feet deep from deep water in San Francisco Bay and 800 feet wide across the shoal south-east of Yerba Buena Island, narrowing to 600 feet at Oakland Mole; thence, a channel and turning basin 35 feet deep and from 600 to 950 feet wide in Outer Harbor to the Army Base Project also provides entrance channel to Oakland Inner Harbor, 35 feet deep and 800 feet wide at the bayward end, narrowing to 600 feet wide at ends of Oakland jetties; a channel from ends of jetties 35 feet deep and 600 feet wide to west end of Government Island, with additional widening to within 75 feet of the pierhead line in front of Grove and Market Street (formerly municipal) piers and along the south side of the channel from Harrison Street eastward to harbor line point 119 in Brooklyn Basin; a channel 35 feet deep and 500 feet wide through Brooklyn Basin, for dredging 35 feet deep a triangular area about 2,700 feet long and maximum width of 300 feet at western end of Brooklyn Basin; a channel along north side of Brooklyn Basin 35 feet deep and 300 feet wide for 1,300 feet, thence, 25 feet deep to a turning basin at east end of Brooklyn Basin 35 feet deep, 500 feet wide, and 1,200 feet long; a channel in the tidal canal 35 feet deep and 275 feet wide from Brooklyn Basin to Park Street, thence, 18 feet deep to San Leandro Bay; a total channel length of 8-1/2 miles from San Francisco Bay to San Leandro Bay. Project also includes parallel rubble-mound jetties at entrance to Inner Harbor, north jetty 9,500 feet long and south jetty 12,000 feet long; three highway bridges across the tidal canal, two of which (at Park Street and High Street) have been replaced by local interests. Railroad and highway bridges at Fruitvale Avenue are maintained and operated by the United States. The project also provides for Federal participation in reconstruction of the Fruitvale Avenue Highway Bridge. All depths refer to mean lower low water.

(2) The authorized project is complete except for deepening Inner Harbor channels, a portion of the north channel in Brooklyn Basin and a portion of the tidal canal to 35 feet and reconstructing Fruitvale Avenue Highway Bridge. Channel improvements to be completed consist of deepening Inner Harbor channels from 30 to 35 feet; deepening portion of north channel in Brooklyn Basin from 25 to 35 feet; deepening tidal canal above Park Street Bridge to 25 feet; and reconstruction of Fruitvale Avenue Highway Bridge. Deepening of tidal canal is in a deferred category.

(3) A general investigation study of Oakland Outer Harbor was authorized on 14 June 1972. This study may result in recommendations for the most effective, efficient and economic means of developing the channel to serve deep-draft shipping needs.

(4) A study of Oakland Outer Harbor is currently in progress under the authority of Section 107 of the 1960 River and Harbor Act, as amended, to determine if the existing channel should be enlarged.

LIST OF PIERS, WHARVES, AND DOCKS AT OAKLAND, CALIFORNIA

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16	Port of Oakland, Middle Harbor Terminal	149
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47	ConAgra - Montana, Inc., Wharf	183
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PIERS, WHARVES, AND DOCKS

Reference Number on Map	1		
Name	Port of Oakland Outer Harbor Terminal, Berth 10.		
Location on Waterfront	West of Maritime Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Howard Terminal.		
Purpose for which Used	Receipt and Delivery of General Cargo.		
Type of Construction	Longitudinal wharf with concrete bulkhead, piles and deck. Constructed 1941.		
Description	Face (feet)		
Dimensions	839		
Depth Alongside at MLLW	35		
Usable Berthing Space	839		
Width of Apron	32 at shed.		
Height of Deck above MLLW	14.5		
Load Capacity per Sq. Ft. (Lbs.)	600		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	1 Transit Shed - Wood Columns, truss and siding.		
Length and Width (Feet)	150 x 500		
Height Inside (Feet)	15 one part and 25 other.		
Floor Area for Cargo (Sq. Ft.)	77,215		
Load Capacity per Sq.Ft. (Lbs.)	600		
Cargo Doors			
Open			
Cargo Type	General		
Area (Acres)	67,320		
Surfacing Type	Asphalt over concrete.		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	various forklifts and tractors. One rubber-tired mobile container crane, capacity 250 tons.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to vessels)			
Railway Connections	Two surface tracks on apron, total length 1,500', connected to Oakland Terminal Railway; Southern Pacific Company; Western Pacific Railway; Santa Fe Railway.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks	Planned development to be operated by Sea Land Service Inc. for containerized cargo. Will install rail gantry crane to replace the present mobile crane.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	2		
Name	Port of Oakland, Sea-Land Terminal, Sea-Land Terminal, Berths 8 and 9.		
Location on Waterfront	North of foot of Wharf Street,		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Sea Land Service, Inc.		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade; handling containerized cargo.		
Type of Construction	Concrete bulkhead, solid fill, with concrete pile, concrete-decked extension; fronted by timber pile, timber-decked apron. Constructed 1951.		
Description	Face (feet)		
Dimensions	1,355		
Depth Alongside at MLLW	35		
Usable Berthing Space	1,355		
Width of Apron	Open		
Height of Deck above MLLW	14.5		
Load Capacity per Sq. Ft. (Lbs.)	600		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Rail and truck container.		
Area (Acres)	53		
Surfacing Type	Asphaltic pavement,		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Three 27.5-ton capacity electric gantry cranes.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through three 2-1/2 inch connections on Wharf; at metered rates per published tariff. (water supply)		
Railway Connections	Two surface tracks on apron, total length 2,230 feet; connect with the Oakland Terminal Railway; Southern Pacific Company; Western Pacific Railway; Santa Fe Railway.		
Highway Connections	U. S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hydrants, hose, hand extinguishers, and watchmen.		
Remarks	Cargo in highway vans is transported by specially designed vessels with cranes for handling vans to and from trailers and rail cars located on the wharf. A freight terminal specially constructed for Sea Land Service, Inc. is located at Maritime and 14th Streets and includes a freight-handling dock, offices, a maintenance garage, and paved parking spaces for 2,000 container		

(Cont'd next sheet)

(2- Cont'd)

PIERS, WHARVES, AND DOCKS

Reference Number on Map	2		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities			
Railway Connections			
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks (Cont'd)	vans. An 8-acre truck/rail terminal is located 8 blocks to the south. Berths 8 and 9: A truck and rail terminal at 7th and Ferry Streets provides for the efficient transfer of cargo between trucks or rail cars and containers and consists of a 50,000 sq. ft. shed, a rail dock (300 ft. x 25 ft.), and offices.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	3		
Name	Port of Oakland, Outer Harbor Terminal, 14th Street Wharf.		
Location on Waterfront	Foot of 14th Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Howard Terminal		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Concrete bulkhead, solid fill, with concrete pile, concrete-decked extension supporting outer portion of transit sheds; fronted by timber pile, timber-decked apron. Constructed 1926.		
Description	Face (feet)		
Dimensions	2,140		
Depth Alongside at MLLW	35		
Usable Berthing Space	2,140		
Width of Apron	31 (85 at Shed #1)		
Height of Deck above MLLW	14.5		
Load Capacity per Sq. Ft. (Lbs.)	600		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			(Cont'd next sheet)
Number and Type of Construction	Three: Shed Nos. 2 and 3 - Steel frame, concrete walls and		
Length and Width (Feet)	120X506 No. 1	721X182 No. 2	610X182-245 No. 3
Height Inside (Feet)	Each shed: sides, 18; centers, 30.		
Floor Area for Cargo (Sq. Ft.)	279,000 Total		
Load Capacity per Sq. Ft. (Lbs.)	600 on piling; 1,000 on solid fill.		
Cargo Doors	Shipside: Thirty-seven 16X16 feet; rear: Thirty-two (Cont'd next sheet)		
Open	General		
Cargo Type			
Area (Acres)	2		
Surfacing Type	Asphalt		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Various forklifts and tractors. The use of a 250-ton capacity rubber-tired mobile container crane (presently at Berth 10) is planned for the southerly portion of the wharf.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through twelve 2-1/2 inch connections on wharf; at metered rates per published tariff. (water supply)		
Railway Connections	Two surface tracks on apron, total length 4,380 feet; and three platform-level tracks along rear of transit sheds, total length 4,915 feet; connect with the Oakland Terminal (Cont'd next sheet)		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	Through numerous outlets on wharf; A.C., 115 volts, single-phase, 60 cycle; A.C., 460 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Hydrants, hose, hand extinguishers, chemical cart, and watchmen.		
Remarks	Canopy extends full length of railroad platform along rear of transit sheds. The City of Oakland, Board of Port Commissioners, owns and leases five storage warehouses located east of transit sheds. Comprises ship berths 5, 6A, 6B and 7.		

(3-Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	3		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	floor; shed No. 1 - timber frame, concrete walls and floor.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors	10X14 feet and two 72X9 feet; ends: three 18X18 feet and two 14X14 feet.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities			
Railway Connections	Railway; Southern Pacific Co.; Western Pacific Railway; Santa Fe Railroad.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	4		
Name	Port of Oakland, Outer Harbor Terminal, Oil Pier.		
Location on Waterfront	Foot of Pier Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Board of Port Commissioners, Mobil Oil Company, and the Ashland Oil Company.		
Purpose for which Used	Receipt and shipment of Petroleum products; bunkering vessels.		
Type of Construction	Timber pile, timber-decked pier projecting diagonally from rubble-stone bank. Constructed 1962.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	50	623	683
Depth Alongside at MLLW	35	35	35
Usable Berthing Space	-	623	683
Width of Apron	Open		
Height of Deck above MLLW	14.8		
Load Capacity per Sq. Ft. (Lbs.)	400		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	Mobil Oil Co.: Four 10-, two 8-, three 6-, and one 4-inch pipelines extend from pier to 14 steel storage tanks, total capacity 522,100 barrels. (cont'd Remarks)		
Water Supply and Waste Treatment Facilities (Available to vessels)	Mobil Oil Company: One three-inch line for own use. (water)		
Railway Connections	Oakland Terminal Railway; Southern Pacific Co.; Western Pacific Railway; Atchinson, Topeka and Santa Fe Railway		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60 cycle, for lighting.		
Fire Protection (Other than City)	Hydrants, hose, 40 gallon foam cart, hand extinguishers, and watchmen while vessels work.		
Remarks	Ashland Oil Co.: Two 8- and three 6-inch pipelines extend from pier to nine storage tanks, total capacity 142,300 barrels. Pier to be demolished under planned area development. Fueling capabilities may be provided in a bunkering facility at the planned marginal wharf.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
4	Mobil Oil Company (1)	14	522,100
4	Ashland Oil Company (2)	9	142,300
Total		23	664,400

- (1) Used for bunkering vessels; used for furnishing diesel fuel to tugs, fishing boats, and other types of small vessels.
- (2) At the time of the survey this company was not using the water front facility for handling petroleum products.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	5		
Name	Port of Oakland, Outer Harbor Terminal, General American Transportation Corp. (GATX) Terminal		
Location on Waterfront	West of foot of Terminal Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	General American Transportation Corporation. (GATX)		
Purpose for which Used	Receipt and shipment of petro-chemicals and oil barges for Powerine Oil Co.		
Type of Construction	Concrete bulkhead, solid fill, with timber pile, timber - decked extension; section of wharf apron fronting former transit shed is asphalt surfaced. Constructed 1935.		
Description	Face (feet)		
Dimensions	717		
Depth Alongside at MLLW	35		
Usable Berthing Space	717		
Width of Apron	Open and 31.5		
Height of Deck above MLLW	15		
Load Capacity per Sq. Ft. (Lbs.)	400		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Five 1-1/2 ton, gasoline forklifts equipped with barrel clamps used in plant.		
Pipelines	Five 6-inch pipelines extend from wharf to 15 steel storage tanks, total capacity 62,500 barrels. Numerous other tanks are used for blending and storage purposes. (Cont. Next Sheet)		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one connection off 2-1/2-inch line; fresh water furnished at no charge. (water supply)		
Railway Connections	Two surface tracks on apron, total length 2,800-ft.; one 515-foot, platform level, track along rear (Cont'd Next Sheet)		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hydrants, hose, hand extinguishers, chemical carts, and watchmen while vessels work.		
Remarks	Operator uses former transit shed as a blending, drumming, and packaging plant, and for offices and laboratory. Building is 501 by 122 feet in size, and of timber frame, concrete wall construction with part wood and part concrete floor; all floors are asphalt surfaced. Wharf to be expanded and area revised under planned area development. Development to include construction (Cont'd Next Sheet)		

(5-Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	5		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines	are served by tank cars and trucks, and are not connected to pipelines extending from wharf.		
Water Supply and Waste Treatment Facilities			
Railway Connections	of plant building (former transit shed); connect with the Oakland Terminal Railway and the Southern Pacific Co.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks	of a concrete longitudinal wharf supporting a gantry crane with paved back-up area for container operations.		

OIL-HANDLING FACILITIES

Reference
Number
On Map

Operator and/or user

Number

Capacity
(barrels)

5

General American Transportation
Corporation (GATX)

15

62,500

Total

15

62,500

PIERS, WHARVES, AND DOCKS

Reference Number on Map	6		
Name	Port of Oakland 7th Street Terminal, Berths D and E.		
Location on Waterfront	Foot of 7th Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Matson Terminals Corp. (See Remarks)		
Purpose for which Used	Receipt and delivery of container cargo.		
Type of Construction	Concrete wharf. Prestressed concrete piles, reinforced concrete deck with fill over and paved. Constructed 1967.		
Description	Face (feet)		
Dimensions	1,350	(To be lengthened to 1,600 feet)	
Depth Alongside at MLLW	35		
Usable Berthing Space	1,450 w/dolphin		
Width of Apron	Open.		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	1,000		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	(See Remarks)		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Container		
Area (Acres)	46		
Surfacing Type	Asphalt		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two traveling gantry container cranes of 25 and 27-1/2 ton capacities.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	2-1/2" water service. 6" sewer extensions available for future use.		
Railway Connections	Two surface tracks on wharf. 2,000' connected to Oakland Terminal Railway; Southern Pacific Co.; Western Pacific Railroad; and Santa Fe Railroad.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	Welding outlets.		
Fire Protection (Other than City)	3 - 6" fire hydrants. Fireboat connection.		
Remarks	Two Japanese carriers, N.Y.K. Line and Showa Steamship Company, use the terminal under an agreement with the Matson Terminal Corp. Planned development includes a 150' easterly wharf extension and a 700' westerly extension to provide a three-berth facility. A ten-acre expansion of the container yard in a westerly direction is planned, and the addition of a third container		

(6-Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	-6
Name	
Location on Waterfront	
Owned by	
Operated by	
Purpose for which Used	
Type of Construction	
Description	
Dimensions	
Depth Alongside at MLLW	
Usable Berthing Space	
Width of Apron	
Height of Deck above MLLW	
Load Capacity per Sq. Ft. (Lbs.)	
Lighted or Unlighted	
Storage Space	
Covered (Transit Sheds)	
Cargo Type (Bulk, Container, Etc.)	
Number and Type of Construction	
Length and Width (Feet)	
Height Inside (Feet)	
Floor Area for Cargo (Sq. Ft.)	
Load Capacity per Sq. Ft. (Lbs.)	
Cargo Doors	
Open	
Cargo Type	
Area (Acres)	
Surfacing Type	
Tank (Other than Petroleum)	
Mechanical Handling Facilities	
Pipelines	
Water Supply and Waste Treatment Facilities	
Railway Connections	
Highway Connections	
Electric Current (Available to Vessels)	
Fire Protection (Other than City)	
Remarks	crane is contemplated. In the rear yard area is a 366' x 80' container freight station with 33 dock high truck and rail doors on one side and 28 dock high container doors on the other. There is also a 397' x 70' container equipment maintenance building in the rear yard area.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	0-6A		
Name	Port of Oakland 7th Street Terminal, Berth F		
Location on Waterfront	Foor of 7th Street		
Owned by	City of Oakland, Board of Port Commissioners		
Operated by	Matson Terminals Corporation		
Purpose for which Used	Receipt and delivery of container cargo		
Type of Construction	Concrete wharf to be constructed with prestressed concrete piles and reinforced concrete deck will fill over and paved.		
Description	Face (feet)		
Dimensions	730		
Depth Alongside at MLLW	35		
Usable Berthing Space	730		
Width of Apron	Open		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	1,000		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Container		
Area (Acres)	18		
Surfacing Type	Asphalt		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Berth F to be serviced by the two traveling gantry container cranes from berths D and E. One additional container crane may possibly be provided.		
Pipelines			
Water Supply and Waste Treatment Facilities	2-1/2" water service 6" sewer extensions available for future use.		
Railway Connections	Two surface tracks on wharf (extended from Berths D and E) connected to Oakland Terminal Railway.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	220 V, 30 Amp		
Fire Protection (Other than City)	2-6" fire hydrants to be provided.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	0-7		
Name	Port of Oakland 7th Street Terminal, Berth G.		
Location on Waterfront	Foot of 7th Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Oakland Container Terminal Inc.		
Purpose for which Used	Receipt and delivery of container cargo.		
Type of Construction	Concrete wharf. Prestressed concrete piles, reinforced concrete deck with fill over and paved. Constructed 1968.		
Description	Face (feet)		
Dimensions	630		
Depth Alongside at MLLW	35		
Usable Berthing Space	765		
Width of Apron	Open		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	1,000		
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Containers (See Remarks)		
Area (Acres)	9		
Surfacing Type	Asphalt		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two container cranes with 30 and 40-ton capacity. The container cranes at this facility and the one at Berth I may be used at either Berth G, H or I. Yard handling done by transtainers, forklifts, and various tractors.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	2-1/2" water service 6" sewer extensions available for future use.		
Railway Connections	Two tracks along west side of yard to connect to Oakland Terminal Railway; Southern Pacific Co.; Western Pacific Railway; and Santa Fe Railway.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	220 V, 30 Amp.		
Fire Protection (Other than City)	6" fire line.		
Remarks	Storage yard accommodates 1,200 containers. Four Japanese flag lines operate from Berth G. An adjoining eight-acre area is used for the storage of empty containers. (Cont'd next sheet		

(7-Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	0-7		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities			
Railway Connections			
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks	Two of the Japanese lines are served by an adjacent truck and rail terminal which is used for the "stuffing" of containers. The area of this container freight station shed is 32,000 sq. ft. and is located on a five-acre site.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	0-8		
Name	Port of Oakland 7th Street Terminal, Berth H.		
Location on Waterfront	Foot of 7th Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Marine Terminals Corp.		
Purpose for which Used	Receipt and delivery of container cargo.		
Type of Construction	Reinforced concrete wharf. Prestressed concrete piles, concrete deck with fill over and paved. Constructed 1968.		
Description	Face (feet)		
Dimensions	768		
Depth Alongside at MLLW	35		
Usable Berthing Space	768		
Width of Apron	Open		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	1,000		
Lighted or Unlighted	lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Container		
Area (Acres)	8		
Surfacing Type	Asphalt		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	The 30 and 40-ton capacity container cranes of Berth G and the 40-long-ton crane of Berth I may be used at either Berth G, H or I. Various forklifts, straddle carriers, tractors, etc. handle containers in yard.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	2 1/2" water service 6" sewer extensions available for future use.		
Railway Connections	At rear of yard, Oakland Terminal Railway, Western Pacific Railway, Southern Pacific Co., Atcheson, Topeka, and the Santa Fe Railway.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	220 V. 30 Amp.		
Fire Protection (Other than City)	6" water.		
Remarks	Terminal is available to all carriers.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	0-10		
Name	Port of Oakland 7th Street Terminal, Berth J.		
Location on Waterfront	Foot of 7th Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Marine Terminals Corp.		
Purpose for which Used	Receipt and delivery of container and general cargo. (See Remarks)		
Type of Construction	Reinforced concrete wharf deck on prestressed concrete, piles with paved fill over. Constructed 1971.		
Description	Face (feet)		
Dimensions	793		
Depth Alongside at MLLW	40		
Usable Berthing Space	793		
Width of Apron	Open		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	1,000		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	1 Combo, CFS/Transit Shed - steel frame.		
Length and Width (Feet)	384 x 160		
Height Inside (Feet)	27		
Floor Area for Cargo (Sq. Ft.)	61,440		
Load Capacity per Sq.Ft. (Lbs.)	1,000		
Cargo Doors	16		
Open			
Cargo Type	Container and general.		
Area (Acres)	6		
Surfacing Type	Asphalt		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Various straddle carriers, forklifts and tractors. Possible future container crane.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	2 1/2" Water Service. 6" sewer extensions available for future use.		
Railway Connections	None		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	120 V, 30 Amp.		
Fire Protection (Other than City)	6" Water.		
Remarks	Terminal is available to all carriers. Facility has provision for roll on - roll off container vessels.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	1-9		
Name	Port of Oakland 7th Street Terminal, Berth I.		
Location on Waterfront	Foot of 7th Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Marine Terminals Corp.		
Purpose for which Used	Receipt and delivery of container cargo.		
Type of Construction	Reinforced concrete wharf deck on prestresses concrete, piles with fill over and paved. Constructed 1971.		
Description	Face (feet)		
Dimensions	764		
Depth Alongside at MLLW	40		
Usable Berthing Space	764		
Width of Apron	Open		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	1,000		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Container. (See Remarks)		
Area (Acres)	8		
Surfacing Type	Asphalt		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	40-ton capacity container crane and two Berth H cranes may be used at either Berth G, H or I. Various straddle carriers and tractors are used for yard handling of containers.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	2-1/2" Water Service. 6" sewer extensions available for future use.		
Railway Connections	At rear of yard, Oakland Terminal Railway, Western Pacific Railway, Southern Pacific Co. and Atcheson, Topeka, and the Santa Fe Railway.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	120 V. 30 Amp.		
Fire Protection (Other than City)	6" Water.		
Remarks	Terminal is available to all carriers. Facility also has an adjoining 8 acre area container storage yard.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	C-11		
Name	Port of Oakland 7th Street Terminal, Berth O.		
Location on Waterfront	Foot of 7th Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Marine Terminals Corp.		
Purpose for which Used	Receipt and delivery of general cargo. At time of survey used primarily for discharge of steel products.		
Type of Construction	Reinforced concrete wharf deck on prestressed concrete, piles with fill over and paved. Constructed 1971.		
Description	Face (feet)		
Dimensions	606		
Depth Alongside at MLLW	25		
Usable Berthing Space	606		
Width of Apron	Open		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	1,000		
Lighted or Unlighted	Unlighted (lighting will be installed in near future)		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	General (non-container)		
Area (Acres)	5		
Surfacing Type	Asphalt		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Various forklifts. Facilities for possible future container crane.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	6" sewer extensions available for future use.		
Railway Connections	Two sets surface tracks, each 580' long, connected to track on 7th Street by trestle. Oakland Terminal Railway and		
Highway Connections	300 West 16th St. U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	-12		
Name	Kaiser Steel Main Dock.		
Location on Waterfront	Between Seventh Street Terminal and Navy Supply Center.		
Owned by	Port of Oakland.		
Operated by	Kaiser Steel Corporation.		
Purpose for which Used	Barge loading of steel structures erected in yard and unloading of steel members and pilings.		
Type of Construction	Cellular steel bins.- filled. Constructed 1964.		
Description	Face (feet)		
Dimensions	150		
Depth Alongside at MLLW			
Usable Berthing Space	175		
Width of Apron	Open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Erection yard.		
Area (Acres)	3		
Surfacing Type	Unpaved.		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	1 Erection Crane.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	Connections to Southern Pacific, Western Pacific, Oakland Terminal Railway and Santa Fe along west side of yard.		
Highway Connections	U.S. 40, 580, 80 and State 17.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	C-13		
Name	Kaiser Steel Loadout Dock.		
Location on Waterfront	Between Seventh Street Terminal and Navy east of Kaiser Dock.		
Owned by	Port of Oakland.		
Operated by	Kaiser Steel Corporation.		
Purpose for which Used	Barge loading of large steel structures erected in yard.		
Type of Construction	Reinforced concrete pier deck on concrete piles. Constructed 1965.		
Description	Face (Feet)	Lower Side (feet)	
Dimensions	40	75	
Depth Alongside at MLLW			
Usable Berthing Space	92	96	
Width of Apron	Open.		
Height of Deck above MLLW	12-0		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	None.		
(Available to Vessels)			
Railway Connections	Connections to Southern Pacific, Western Pacific, Oakland Terminal Railway, and Santa Fe at west side of yard.		
Highway Connections	U.S. 40, 580, 80 and State 17.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks	Two launchway tracks are located in the yard east of the dock for launching floatable structures.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	14		
Name	Western Pacific Oakland Mole, Slips 1 and 2.		
Location on Waterfront	Outer end of Western Pacific Mole at north side of entrance to Inner Harbor.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Western Pacific Railroad Company.		
Purpose for which Used	Transfer of railroad cars to and from car ferries.		
Type of Construction	Two timber ferry racks, each with adjustable bridge. Slips are separated by a timber pile, timber-decked pier.		
Description			
Dimensions	Two car-ferry slips		
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	None		
((Available to Vessels))			
Railway Connections	Western Pacific Railroad: three surface tracks extend to each transfer bridge; join additional trackage in the rear.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	Through one outlet at South slip; A.C. 110 volts, single phase, 60 cycle, for own use.		
Fire Protection (Other than City)	Hydrants, hose, water barrels, and pails, 30-gal. chemical cart, fire pump, water tower and hand extinguishers.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	15		
Name	Western Pacific Oakland Mole, Sugar Dock.		
Location on Waterfront	South side of south slip, Western Pacific Oakland Mole, at north side entrance to Inner Harbor.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Western Pacific Railroad Company.		
Purpose for which Used	Receipt of sugar for transfer into railroad cars. (See Remarks)		
Type of Construction	Timber pile, timber-decked wharf; fronted by a timber fender system. A 24-foot-wide opening along face of wharf serves a 24- by 35-foot wooden covered passageway extending to transit shed in rear; passageway is equipped with an adjustable transfer bridge.		
Description	Face (feet)		
Dimensions	400 approx.		
Depth Alongside at MLLW	18		
Usable Berthing Space	400 approx.		
Width of Apron	0- 4		
Height of Deck above MLLW	13.5		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	Sugar only		
Number and Type of Construction	one (see remark #1)		
Length and Width (Feet)	350 by 85		
Height Inside (Feet)	North portion 21 - 15; south 10		
Floor Area for Cargo (Sq. Ft.)	19,800 total		
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors	shipside: one 24 by 13; southside: two 20 by 9		
Open	ends: open rail entrances		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two 2 1/2 ton, gasoline forklifts in shed owned and operated by Bay and River Navigation Company.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 1 1/2-inch connection inside shed on north side. (water supply)		
Railway Connections	Two depressed tracks extend through interior of transit shed, total length, 750 feet; connect with Western Pacific Railroad; track extend between north and south portions of shed.		
Highway Connections	U.S. 40, 50, 80 and State 17		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Hydrants, hose, water barrels and pails; hose reel station in shed and five stations along outside.		
Remarks	1. North portion of shed-timber frame; south portion of shed-steel frame; all metal covered with wooden floors supported by timber piling. 2. Bay and River Navigation Co. transports and unloads sugar from side openings in vessels through covered passageway to rail cars inside transit shed at rear.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	16		
Name	Port of Oakland, Middle Harbor Terminal.		
Location on Waterfront	South of Middle Harbor Road, between Western Pacific's container yard and Seatrain Lines Terminal.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	United States Lines (1 berth), Marine Terminal Corp. (1 berth).		
Purpose for which Used	Receipt and delivery of container cargo.		
Type of Construction	Reinforced concrete deck on prestressed concrete piles with fill over and paved. Presently under construction-scheduled for completion in 1973.		
Description	Face (feet)		
Dimensions	1,451		
Depth Alongside at MLLW	35		
Usable Berthing Space	1,451		
Width of Apron	Open		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	1,000		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Container.		
Area (Acres)	50 ultimate.		
Surfacing Type	Asphalt.		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two low profile container cranes.		
Pipelines			
Water Supply and Waste Treatment Facilities	2 1/2" water outlets. Provision for future sewer installation.		
(Available to Vessels)			
Railway Connections	Western Pacific Railway; Southern Pacific Railway; Santa Fe Railway.		
Highway Connections	U.S. 40, 580, 80 and State 17.		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks	Wharf and yard development under construction. (Scheduled for completion in 1973) Marine Terminals Corp. berth services United States Lines.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	6-17		
Name	Port of Oakland, Seatrain Lines Terminal.		
Location on Waterfront	South of Middle Harbor Road and adjacent to Middle Harbor Terminal.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Seatrain Lines		
Purpose for which Used	Receipt and delivery of container cargo.		
Type of Construction	Reinforced concrete wharf on prestressed concrete piles with fill over and paved. Constructed 1970.		
Description	Face (Feet)		
Dimensions	700 (see remarks)		
Depth Alongside at MLLW	35		
Usable Berthing Space	1,300		
Width of Apron	120		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	1,000		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Container.		
Area (Acres)	18 (see remarks)		
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two 45-ton capacity low profile sliding boom container cranes.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	2 1/2" water outlets. Provision for future sewer installation.		
Railway Connections	Western Pacific Railway; Southern Pacific Railway; Santa Fe Railway.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)	2 - 6" lines fire hydrants on wharf - 2" outlets each.		
Remarks	1. 700-foot wharf to be expanded to 1,300. 2. 18-acre capacity to be expanded to 33-acre capacity. 3. One berth to be enlarged to two berths. A two story 240' x 124' combined office, inspection station, gate house and maintenance building is located in the rear of the pier.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	C-18		
Name	El Dorado Terminal Pier.		
Location on Waterfront	South of Middle Harbor Road between Seatrain and Schnitzer Steel.		
Owned by	Ashland Oil Company.		
Operated by	Not operated.		
Purpose for which Used	Not used.		
Type of Construction	Timber deck on timber piles, longitudinal wharf connected to land by two truck ramps, and one railroad trestle. Constructed 1931.		
Description	Face (feet)		
Dimensions	424		
Depth Alongside at MLLW	30		
Usable Berthing Space	424		
Width of Apron	30		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None.		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None.		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	Two tracks on wharf, total 840', connected to Southern Pacific, Western Pacific and Oakland Terminal Railway.		
Highway Connections	U.S. 580, 80, 40 and State 17.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)			
Remarks	In poor condition, not in use.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	19		
Name	Schnitzer Brothers 7th Street Pier.		
Location on Waterfront	Between foot of Magnolia and Adeline Streets extended.		
Owned by	Schnitzer Brothers.		
Operated by	Schnitzer Brothers.		
Purpose for which Used	Scrap Loading.		
Type of Construction	Timber pile, timber-decked pier. Constructed 1920.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	35	710	570
Depth Alongside at MLLW	27	29-4	22-21
Usable Berthing Space	-	400 - 310	570
Width of Apron	Open		
Height of Deck above MLLW	11		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lights on crane.		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through connections on pier.		
Railway Connections	Trackage serving area in rear connects with Southern Pacific Company and Western Pacific Railroad.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C. 110 volts, single-phase, 60-cycle; A.C. 220/440 volts, 3-phase, 60-cycle; D.C., 1,000 Amperes.		
Fire Protection (Other than City)	Hydrants and hose; three water tanks with booster pumps, and two deep well pumps supply system.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	-20																																																																																																								
Name	Schnitzer Brothers 6th Street Pier.																																																																																																								
Location on Waterfront	Between foot of Magnolia and Adeline Streets extended.																																																																																																								
Owned by	Schnitzer Brothers and Port of Oakland.																																																																																																								
Operated by	Schnitzer Brothers.																																																																																																								
Purpose for which Used	Scrap loading.																																																																																																								
Type of Construction	Timber pile, timber-decked pier; steel pile supports for shredder scrap loader. Constructed 1920.																																																																																																								
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PIERS, WHARVES, AND DOCKS

Reference Number on Map	-21		
Name	Schnitzer Brothers 5th Street Pier.		
Location on Waterfront	Foot of Adeline Street extended.		
Owned by	Schnitzer Brothers; and City of Oakland, Board of Port Commissioners.		
Operated by	Schnitzer Brothers.		
Purpose for which Used	Scrap loading.		
Type of Construction	Timber pile, timber-decked pier. Constructed 1920.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	35	475	525
Depth Alongside at MLLW	24	24-20	24-20
Usable Berthing Space	-	475	525
Width of Apron	Open		
Height of Deck above MLLW	11		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Unlighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through connections on pier.		
Railway Connections			
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, 3-phase, 60-cycle; D.C., 1,000 amperes.		
Fire Protection (Other than City)	Hydrants and hose; 3 water tanks with booster pumps, and 2 deep well pumps supply system. Fireboat connection on pier.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	D-22		
Name	Schnitzer Brothers 4th Street Pier.		
Location on Waterfront	Between foot of Adeline and Chestnut Streets extended.		
Owned by	Schnitzer Brothers and City of Oakland, Board of Port Commissioners.		
Operated by	Schnitzer Brothers.		
Purpose for which Used	Scrap loading.		
Type of Construction	Timber pile, timber-decked pier. Constructed 1920.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	35	350	640
Depth Alongside at MLLW	22	22-30	22-30
Usable Berthing Space	-	350	420
Width of Apron	Open.		
Height of Deck above MLLW	11		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Partly lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through connections on pier.		
Railway Connections	None.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, 3-phase, 60-cycle; D.C., 1,000 Amperes.		
Fire Protection (Other than City)	Hydrants and hose; 3 water tanks with booster pumps and 2 deep well pumps supply system.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	11-2		
Name	Schnitzer Brothers 3rd Street Pier.		
Location on Waterfront	Foot of Chestnut Street extended.		
Owned by	Schnitzer Brothers and City of Oakland Board of Port Commissioners.		
Operated by	Not operated.		
Purpose for which Used	Not used.		
Type of Construction	Timber pile, timber-decked pier. Constructed 1920.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	35	710	60
Depth Alongside at MLLW	22	22	30
Usable Berthing Space			Drydock
Width of Apron	Open		
Height of Deck above MLLW	11		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Partly lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One electric crane, with 90-foot boom and 5-foot jib extension; capacity 30 tons @ 30-ton radius.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	One 690-foot surface track on pier not useable.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, 3-phase, 60 cycle; D.C., 1,000 Amperes.		
Fire Protection (Other than City)	Hydrants and hose; 3 water tanks with booster pumps and 2 deep well pumps supply system.		
Remarks	Poor condition - not used.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	C-24		
Name	Schnitzer Brothers 2nd Street Pier.		
Location on Waterfront	Foot of Linden Street extended.		
Owned by	Schnitzer Brothers and City of Oakland, Board of Port Commissioners.		
Operated by	Schnitzer Brothers		
Purpose for which Used			
Type of Construction	Timber pile, timber-decked pier; remains of a 490 by 70 foot timber platform located adjacent to upper side. Constructed 1920.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	35	570	610
Depth Alongside at MLLW	23	30	-
Usable Berthing Space	-	450	-
Width of Apron	Open		
Height of Deck above MLLW	11		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lights on crane.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One electric, traveling, revolving, full-portal, gantry crane with 85-foot boom and 5-foot jib extension capacity 50 tons at 35-foot radius.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	Through connections on pier.		
(Available to Vessels)			
Railway Connections	One 610-foot surface track on pier joins additional trackage serving area in rear; connects with Southern Pacific Co. and Western Pacific Railroad.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60 cycle; A.C., 220/440 volts, 3-phase, 60 cycle; D.C., 1,000 Amperes.		
Fire Protection (Other than City)	Hydrants and hose; 3 water tanks with booster pumps and 2 deep well pumps supply system. Fireboat connection on pier.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	0-25		
Name	Howard Terminal Pier No. 1		
Location on Waterfront	Foot of Filbert Street extended		
Owned by	Howard Terminal and City of Oakland, Board of Port Commissioners.		
Operated by	Howard Terminal		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Timber pile, timber-decked pier with asphalt surface on aprons; 60-and 110-foot bulkheads at heads of slips on lower and upper sides, respectively. Constructed 1920.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	120	480	500
Depth Alongside at MLLW	32	32	32
Usable Berthing Space	-	480	500
Width of Apron	27-60	22	22
Height of Deck above MLLW	11-5		
Load Capacity per Sq. Ft. (Lbs.)	750		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	General (non-container) Wooden floor		
Number and Type of Construction	one-timber frame, metal covered, asphalt-surfaced		
Length and Width (Feet)	406 by 66 (Unit 2-A)		
Height Inside (Feet)	20		
Floor Area for Cargo (Sq. Ft.)	25,000		
Load Capacity per Sq. Ft. (Lbs.)	750		
Cargo Doors	Shipside=26-12by12 feet; outer end=one-12by12 feet; all doors are steel rollup type.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Various forklifts and tractors		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through connections on pier at metered rates and service charge.		
Railway Connections	Howard Terminal Railway: One 470-foot surface track on lower apron; one 490-foot surface track on upper apron(Cont'd Sheet		
Highway Connections	U.S. 40, 50, 80 and State 17		
Electric Current (Available to Vessels)	Through outlets on pier; A.C., 110 volts, single phase, 60 cycle.		
Fire Protection (Other than City)	Sprinkler system in shed and upper pier; A.D.T. service; and fireboat connection on face of pier.		
Remarks	Howard Terminal operates storage warehouse located in rear.		

(25-Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	D-25		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities			
Railway Connections	and one 140-foot depressed track inside transit shed; join additional trackage serving storage warehouses in rear; connects with Southern Pacific Company and Atchison, Topeka, Santa Fe Railway.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	26		
Name	Howard Terminal Pier No. 2		
Location on Waterfront	Foot of Myrtle Street extended.		
Owned by	Howard Terminal and City of Oakland, Board of Port Commissioners.		
Operated by	Howard Terminal.		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade; receipt and shipment of dry bulk commodities; receipt of fuel oil for plant consumption; shipment of scrap metal.		
Type of Construction	Timber pile, asphalt-surfaced, timber-decked pier; 60-foot bulkhead adjacent to inner end of upper side. Constructed 1939.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	60	442	442
Depth Alongside at MLLW	30	30	32
Usable Berthing Space		442	442
Width of Apron	Open	2	40
Height of Deck above MLLW	11-5		
Load Capacity per Sq. Ft. (Lbs.)	750		
Lighted or Unlighted	Lighted		
Storage Space	Bulk and general (non-container)		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One-frame construction; Asphalt-surfaced, wooden floor.		
Length and Width (Feet)	400 by 18 (Unit 5-A)		
Height Inside (Feet)	12		
Floor Area for Cargo (Sq. Ft.)	6,000		
Load Capacity per Sq. Ft. (Lbs.)	750		
Cargo Doors	Shipside: 18-8 by 10-feet approximately		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two electric, traveling, straight-line, gantry cranes straddle rail tracks on upper apron of pier; one with 65- and one with 53-foot hinged, cantilevered boom; cranes equipped to use electric magnets or 3-1/2 cubic yard capacity buckets (capacity 7 tons); use of forklift trucks.		
Pipelines	One 8-inch pipeline extends from lower side of pier to 3 steel storage tanks located at nearby Pacific Gas & Electric Company's power plant, total capacity 30,250 barrels.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through connections on pier at metered rates and service charge.		
Railway Connections	Howard Terminal Railway: Two surface tracks on upper apron, total length 880 feet, joining additional trackage serving storage warehouses in rear. (See Remarks Below)		
Highway Connections	U. S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	Through outlets on pier: A.C., 110 volts, single-phase, 60 cycle.		
Fire Protection (Other than City)	Sprinkler system in shed; hydrants, hose, hand extinguishers, and A.D.T. service.		
Remarks (Railway Connections Cont'd)	connects with Southern Pacific Company and Atchison, Topeka, and Santa Fe Railway. Howard Terminal operates storage warehouse located in rear.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
26	Pacific Gas & Electric Co. (1) (Pipelines from Howard Terminal Pier No. 2 and Port of Oakland Quay Wall Wharf)	3	30,250
Total		3	30,250

*(1) Fuel Oil for plant consumption.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	27		
Name	Port of Oakland Quay Wall Wharf.		
Location on Waterfront	Foot of Market Street		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Howard Terminal.		
Purpose for which Used	Receipt and shipment of scrap iron in foreign trade; breaking up of old ships		
Type of Construction	Concrete bulkhead; solid fill, with concrete-paved asphalt surface. Constructed 1936.		
Description	Face (feet)		
Dimensions	490		
Depth Alongside at MLLW	34		
Usable Berthing Space	490		
Width of Apron	Open		
Height of Deck above MLLW	10-3		
Load Capacity per Sq. Ft. (Lbs.)	1000		
Lighted or Unlighted	Lights on crane.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One electric, traveling, revolving, full portal, gantry crane; equipped with a 95-foot boom and 20-foot jib extension, and has a capacity for 40-tons at 50-foot radius; fork lift trucks are available.		
Pipelines	One 8-inch pipeline extends from wharf and connects with same 3 fuel oil storage tanks referenced under Howard Terminal Pier No. 2.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through four 2-1/2 inch connections on wharf at metered rates and service charge. (water supply)		
Railway Connections	Two surface tracks on wharf along rear of face, total length 900 feet; join additional trackage serving terminal; connect with Southern Pacific Co. and Atchison, Topeka and Santa Fe Railway.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hydrants, hose, hand extinguishers, and A.D.T. Service.		
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
27	Pacific Gas & Electric Co. (1) (Pipelines from Howard Terminal Pier No.2 and Port of Oakland Quay Wall Wharf)	3	30,250
Total		3	30,250

(1) Fuel oil for plant consumption.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	28		
Name	Port of Oakland Market Street Pier.		
Location on Waterfront	200 Feet east of foot of Market Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Howard Terminal.		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Timber pile, asphalt-surfaced, timber-decked pier extending from concrete bulkhead; 265-foot concrete bulkhead, solid fill, with concrete-paved asphalt surface located at head of slip on upper side. Constructed 1925.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	130	450	570
Depth Alongside at MLLW	30-35	-	36-32
Usable Berthing Space	233	0	570
Width of Apron	18	0	20
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	General (non-container) Asphalt-surfaced wooden floor		
Number and Type of Construction	One irregularly shaped, timber frame, wood covered.		
Length and Width (Feet)	500 by 128		
Height Inside (Feet)	18		
Floor Area for Cargo (Sq. Ft.)	58, 800		
Load Capacity per Sq. Ft. (Lbs.)	500		
Cargo Doors	Shipside: 34-14 by 16 feet; others: 2-13.5 by 12.5 feet.		
Open	2-13.5 by 16 feet.		
Cargo Type	General (non-container)		
Area (Acres)	One		
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Various forklift trucks.		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through six 2-1/2 inch connections on pier at metered rates and service charge. (water)		
(Available to Vessels)			
Railway Connections	One 530-foot surface track on upper apron: join additional trackage serving terminal; connects with Southern Pacific Railroad; Santa Fe Railway; and Western Pacific Railway.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	Through 10 outlets each: A.C., 115 volts, single-phase, 60-cycle; A.C., 230 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Sprinkler system in shed under pier; hydrants, hose, hand extinguishers, and A.D.T. service.		
Remarks	1. Actual width of pier is 148 feet. 2. Trucks have access to interior of transit shed. 3. Upper side of pier forms slip 200 feet wide with lower side of Grove Street pier.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	29		
Name	Port of Oakland Grove St. Pier.		
Location on Waterfront	Between foot of Grove and Jefferson Streets.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Howard Terminal		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Transit shed portion of pier: Concrete pile with concrete deck; aprons along sides and face: timber pile, asphalt-surfaced, timber deck. A 300-foot concrete bulkhead, solid fill, with concrete-paved asphalt surface located at head of slip on upper side. Constructed 1926.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	564	575	566
Depth Alongside at MLLW	38-34	38-34	37-34
Usable Berthing Space	564	575	566
Width of Apron	23	23	31
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	600		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	General (Non-Container)		
Number and Type of Construction	Two-concrete walls, steel roof trusses and columns, (Cont sheet		
Length and Width (Feet)	560 by 151.5, each shed.		
Height Inside (Feet)	sides, 18; centers, 30		
Floor Area for Cargo (Sq. Ft.)	193,000		
Load Capacity per Sq. Ft. (Lbs.)	600 each		
Cargo Doors	Shipside = 31-16 by 16 feet; others 2-30 by 19 feet; General		
Open	(Non-Container)		
Cargo Type	7-14 x 10 feet; 3-12 x 10 feet; 2-8 x 10 feet		
Area (Acres)	1.25		
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Various forklift trucks.		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through six 2 1/2 inch connections on pier at metered rates and service charge. (water)		
(Available to Vessels)			
Railway Connections	One 570 foot surface track on lower apron; one 540 foot surface track along rear of face joins with 2 surface tracks on upper apron. (Cont. on next sheet)		
Highway Connections	U.S. 40, 50, and 80 and State 17.		
Electric Current (Available to Vessels)	Through 31 outlets on pier; 16-A.C., 115 volts, single-phase, 60 cycle; 15-A.C., 230 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Water curtains, hose carts, hydrants, hose, hand extinguishers, and A.D.T. service.		
Remarks	1. Transit sheds are also joined by a 466- and 370 by 61 foot shed on center of pier. 2. Trucks have access over rail tracks and interior of transit sheds. 3. Approx. 55,000 square feet of paved open storage space is located in rear of heads of slips on upper and lower sides. The Embarcadero is a wide asphalt-paved area which provides truck access to adjacent piers.		

(29-Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map			
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	and asphalt-surfaced concrete floor; sheds joined at outer		
Length and Width (Feet)	end by 85-by-60 foot section (See Remarks) /		
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities			
Railway Connections	total length 1,000 feet; joins additional trackage serving terminal; connects with Southern Pacific Company and Atchison, Topeka, and Santa Fe Railway.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	30		
Name	Port of Oakland Clay Street Pier.		
Location on Waterfront	Foot of Clay Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Board of Port Commissioners.		
Purpose for which Used	Temporary storage of converted ferry.		
Type of Construction	Concrete encased, timber pile, timber-decked pier. Constructed 1924.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	86	311	125
Depth Alongside at MLLW	16-13	18-16	-
Usable Berthing Space	86	311	See Remarks
Width of Apron	12	6	3
Height of Deck above MLLW	11		
Load Capacity per Sq. Ft. (Lbs.)	350		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One-wooden frame building (See Remarks)		
Length and Width (Feet)	295 (average) by 75 feet		
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through three connections off 2-inch line in shed. (water)		
Railway Connections	None.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	Through special outlets-A.C., 460 volts, 3-phase, 60 cycle.		
Fire Protection (Other than City)	Hydrants, hose, hand extinguishers, and watchmen.		
Remarks	Building was leased to several operators, including two Stevedoring Companies. Small boat marina is located and adjacent to and above upper side of pier.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	-31		
Name	Port of Oakland Marine Fire Station and Fireboat Slip.		
Location on Waterfront	West of foot of Broadway.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Board of Port Commissioners.		
Purpose for which Used	Mooring fireboat "Port of Oakland".		
Type of Construction	Timber slip. Constructed 1941.		
Description	Head of slip (feet)	North side (feet)	South side (feet)
Dimensions	20	240	140
Depth Alongside at MLLW	15	18-15	18-15
Usable Berthing Space	20	240	140
Width of Apron	-	-	-
Height of Deck above MLLW	10		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through fireboat connections to mains and outlets on slip side. (water)		
Railway Connections	None.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110/220 volts, single and 3-phase, 60 cycle.		
Fire Protection (Other than City)	Fireboat and fire station with two fire trucks.		
Remarks	Fireboat is moored along inner portion of north side of slip; city firehouse on shore in rear of head of slip.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	32
Name	Atchison, Topeka and Santa Fe Railway Car Float Slip.
Location on Waterfront	Foot of Fallon Street extended.
Owned by	Atchison, Topeka and Santa Fe Railway Co.
Operated by	Atchison, Topeka and Santa Fe Railway Co. (Not operated)
Purpose for which Used	Not used.
Type of Construction	Timber ferry rack with adjustable bridge; timber platform extends along each side of ferry rack. Constructed 1942.
Description	
Dimensions	One car.
Depth Alongside at MLLW	Ferry slip.
Usable Berthing Space	
Width of Apron	
Height of Deck above MLLW	
Load Capacity per Sq. Ft. (Lbs.)	
Lighted or Unlighted	
Storage Space	
Covered (Transit Sheds)	
Cargo Type (Bulk, Container, Etc.)	
Number and Type of Construction	None.
Length and Width (Feet)	
Height Inside (Feet)	
Floor Area for Cargo (Sq. Ft.)	
Load Capacity per Sq. Ft. (Lbs.)	
Cargo Doors	
Open	
Cargo Type	
Area (Acres)	
Surfacing Type	
Tank (Other than Petroleum)	
Mechanical Handling Facilities	None.
Pipelines	None.
Water Supply and Waste Treatment Facilities	Through one 2 1/2-inch line. (water)
(Available to Vessels)	
Railway Connections	
Highway Connections	U.S. 40, 50, 80 and State 17.
Electric Current (Available to Vessels)	None.
Fire Protection (Other than City)	Hydrants, hose, waterline, and watchmen.
Remarks	Deteriorated. Not in use. Demolished

PIERS, WHARVES, AND DOCKS

Reference Number on Map	33		
Name	Martinolich Ship Repair Co. Pier No. 2 (Lower pier).		
Location on Waterfront	South of entrance to Lake Merritt Canal.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Martinolich Ship Repair Co.		
Purpose for which Used	Mooring vessels for repair and conversion; mooring floating dry dock.		
Type of Construction	Timber pile, asphalt-surfaced, timber-decked pier; a timber walkway extends from upper side of pier to lower side of Pier No. 1 (Upper pier). Constructed 1928.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	30	725	725
Depth Alongside at MLLW	31	21-6	45-0
Usable Berthing Space		700	Drydock
Width of Apron	Open		
Height of Deck above MLLW	7		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lights on drydock		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None (See Remarks)		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	Through three 1/2 inch connections for own use. (water)		
Available to vessels)			
Railway Connections	None.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, 3-phase, 60 cycle.		
Fire Protection (Other than City)	Waterlines, hose, hand extinguishers, 5,000 gpm salt water pump, and watchmen.		
Remarks	A floating drydock with a lifting capacity of 2,800 tons is moored along outer portion of upper side. Pier is equipped with lines for supplying compressed air, fresh and salt water, steam, and acetylene gas. One revolving traveling crane, capacity 5 to 10 tons, on top of each wing wall of floating drydock; crane on pier side can serve pier or vessel moored along lower side of pier.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	34		
Name	Martinolich Ship Repair Co. Pier No. 1 (Upper pier)		
Location on Waterfront	Approximately 600 feet below foot of 5th Ave. extended.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Martinolich Ship Repair Co.		
Purpose for which Used	Mooring vessels for repair and conversion.		
Type of Construction	Timber pile, asphalt-surface, timber-decked pier. Constructed 1928.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	35	620	680
Depth Alongside at MLLW	31	31-20	31-0
Usable Berthing Space	-	420	620
Width of Apron	Open		
Height of Deck above MLLW	9		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One electric, traveling, revolving, gantry crane with 68-foot boom; capacity 32 tons at minimum working radius over vessel and 10 tons at maximum outreach.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through six 1/2 inch connections for own use. (water)		
Railway Connections	None.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, 3-phase, 60 cycle.		
Fire Protection (Other than City)	waterlines, hose, hand extinguishers, 5,000 gpm salt water pump, and watchmen.		
Remarks	Company owned towboat "Bobby Boy" based at yard for own use.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	35		
Name	Pacific Gas and Electric Co. Substation Wharf.		
Location on Waterfront	Lower side of Clinton Basin, above foot of 5th Avenue.		
Owned by	Schoonmaker, Inc.		
Operated by	Sea Breeze Yacht Harbor		
Purpose for which Used	Small craft repair.		
Type of Construction	Timber pile, timber-decked, off-shore wharf with 40-by-20-foot sloping, timber approach from natural bank. Constructed 1937.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	110	75	75
Depth Alongside at MLLW	10-8	10-0	8-0
Usable Berthing Space	110	75	-
Width of Apron	Open.		
Height of Deck above MLLW	10		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	Waterline for own use.		
(Available to Vessels)			
Railway Connections	None.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C. 110 volts, single-phase, 60 cycle.		
Fire Protection (Other than City)	Hand extinguishers and waterline.		
Remarks	Sea Breeze Yacht Center leases inner portion of lower side of Clinton Basin from City of Oakland, Board of Port Commissioners, for use as a small boat marina and marine repair plant, which includes one 25-ton and one 50-ton marine railways.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	36		
Name	Port of Oakland, Clinton Basin Wharf		
Location on Waterfront	Inner Portion of Upper Side of Clinton Basin		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Not operated		
Purpose for which Used	Not used		
Type of Construction	Timber bulkhead solid fill with timber platform; bulkhead fronted by timber pile, timber-decked wharf constructed 1937.		
Description	Face (feet)		
Dimensions	430		
Depth Alongside at MLLW	11-6		
Usable Berthing Space	430		
Width of Apron	Open		
Height of Deck above MLLW	9 and 6 (See Remarks)		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to vessels)	One 1-inch waterline		
Railway Connections	None		
Highway Connections	U.S. 40,50,80 and State 17		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Waterline, hydrants, and hose station.		
Remarks	Lower 30-foot section of wharf is at a 3-foot lower elevation. Dilapidated - not used.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	37		
Name	Port of Oakland Ninth Avenue Terminal Wharf.		
Location on Waterfront	Foot of Ninth Avenue at entrance to Brooklyn Basin North Channel.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Marine Terminals Corp.		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade; Shipment of dry granular bulk commodities, petroleum products, and emulsified asphalt; receipt of steel.		
Type of Construction	West 535 foot portion of wharf; concrete bulkhead, solid fill, fronted by timber pile, timber-decked extension; remaining portion: concrete pile, concrete deck, fronted by 16-foot wide timber pile, timber-decked extensions; all asphalt-surfaced. Constructed 1930. Addition const. 1937.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	1,100 (952 apron)	227	220
Depth Alongside at MLLW	37-35	35-10	-
Usable Berthing Space	1,100 (952 apron)	312 w/dolph	-
Width of Apron	Open end 32		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	600		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	Bulk		
Number and Type of Construction	One-concrete walls and floor; (Cont'd next page)		
Length and Width (Feet)	1,060 and 910 by 180 and 174		
Height Inside (Feet)	Sides-15; center-30		
Floor Area for Cargo (Sq. Ft.)	177,000		
Load Capacity per Sq.Ft. (Lbs.)	500		
Cargo Doors	Shipside: 21-6 by 16 feet; rear: 18-14 by 10 feet;		
Open	one 24 by 24 door at each end.		
Cargo Type	Steel.		
Area (Acres)	6		
Surfacing Type			
Tank (Other than Petroleum)	10 steel storage silos 7,500 cu. ft. capacity		
Mechanical Handling Facilities	One telescopic-cantilevered boom on roof of transit shed with a flexible, vessel-loading spout on outer end; spout is served by a 30-inch covered, electric belt conveyor system extending from a covered combination rail-and truck-receiving pit and 10 steel silos in rear (Cont next page)		
Pipelines	Port Petroleum Co.: one 6-inch pipeline extends to face of 952-foot section of wharf from four steel storage tanks, total capacity 41,000 barrels. (Cont next page)		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through metered outlets under aprons at published tariff rates. (water)		
Railway Connections	One surface track on curved rail trestle approach to upper side joins two connecting surface tracks on wharf apron, total length 3,400 feet: (Cont next page)		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 120 volts, single-phase, 60-cycle; A.C., 240 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Sprinkler system in shed, under aprons and canopies, watchmen, hydrants, hose reels, hand extinguishers, and alarm system.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	0-37		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space	Steel roof trusses and columns; 11-feet wide, covered, rail platform along rear; transit shed is divided into two sections by firewall.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Deck			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Vessel loading rate is 600 tons per hour for magnesite, and 250-300 tons per hour for grain. Various forklifts and tractors are available as well as two mobile and two crawler cranes (capacity to 100 short tons)		
Pipelines	American Bitumuls & Asphalt Co.: One 6-inch pipeline extends to face of 925-foot section of wharf from two steel asphalt storage tanks, total capacity 20,000 barrels.		
Water Supply and Waste Treatment Facilities			
Railway Connections	Three platform-level tracks along rear of transit shed, total length 1,800 feet; connects with Southern Pacific Railway and Western Pacific Railway.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
37	Port Petroleum Company	4	41,000
37	American Bituminuls & Asphalt Co. (Emulsified Asphalt)	2	20,000
Total		6	61,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	39		
Name	Pacific Drydock & Repair Co., Center Wharf.		
Location on Waterfront	Just above foot of 14th Avenue extended.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Pacific Dry Dock & Repair Co.		
Purpose for which Used	Mooring small vessels and barges for repair.		
Type of Construction	Timber pile, timber-decked pier with 85-foot timber walkway extending from outer ends; walkway is in line and contiguous with upper side; two timber mooring dolphins along lower side of walkway. Constructed 1945.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	9	168+85	270
Depth Alongside at MLLW	15	15-10	15-0
Usable Berthing Space	-	253 w/dolphins	See Remarks
Width of Apron	Open		
Height of Deck above MLLW	8		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Use of gasoline, mobile, yard crane described under Pacific Dry Dock Main Wharf.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	Through one connection on pier, for own use. (water)		
(Available to Vessels)			
Railway Connections	One 100-foot surface track serves west portion of yard in rear; connects with Southern Pacific Company.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110/220 volts, single-phase, 60-cycle; D.C., from own generators, on each: 100 K.W., 30 K.W., and 7 1/2 K.W.		
Fire Protection (Other than City)	One 1 1/2-inch hose on reel, one fresh water connection, three water connections, and salt water pump on wharf.		
Remarks	One 1,000 ton, marine railway located along upper side of pier. Pier equipped with lines for supplying compressed air, acetylene gas, and fresh and salt water.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	40		
Name	Pacific Dry Dock & Repair Co. East Wharf.		
Location on Waterfront	Above foot of 14th Avenue extended.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Pacific Dry Dock & Repair Co.		
Purpose for which Used	Mooring small vessels and barges for repair.		
Type of Construction	Timber pile, timber-decked pier; four timber mooring dolphins in line with face on upper side; dolphins spaced 50 feet apart. Constructed 1945.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	14	121	121
Depth Alongside at MLLW	7	7-0	7-0
Usable Berthing Space	214 w/dolph	See Remarks	See Remarks
Width of Apron	open		
Height of Deck above MLLW	8		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Partly lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Use of gasoline, mobile, yard crane described under Pacific Dry Dock Main Wharf.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	Through two connections on pier, for own use. (water)		
(Available to Vessels)			
Railway Connections	One 100-foot surface track serves west portion of yard in rear; connects with Southern Pacific Co.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110/220 volts, single-phase, 60-cycle; D.C., from own generators, one each: 100 K.W., 30 K.W. and 7 1/2 K.W.		
Fire Protection (Other than City)	Water connections and hose.		
Remarks	One 400-ton, marine railway located along lower side. Storm sewer outlet located on upper side.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	41		
Name	Walters Engineering, Inc. Upper Pier.		
Location on Waterfront	Just below foot of 19th Avenue.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Walters Engineering, Inc.		
Purpose for which Used	Mooring small vessels for repair.		
Type of Construction	Timber pile, timber-decked pier. Constructed 1949.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	18	25	25
Depth Alongside at MLLW	4	4-0	4-0
Usable Berthing Space	18	See Remarks	25
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	100		
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	1 1/2-inch waterline and hose.		
(Available to Vessels)			
Railway Connections	None		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110/220 volts, single-phase and 3-phase, 60-cycle, for own use.		
Fire Protection (Other than City)	Hose and hand extinguisher in yard.		
Remarks	One 150-ton, marine railway located above upper side. Timber extension at inner end of lower side is connected by steps to timber landing barge moored on lower side. Both the Port of Oakland, 10th Avenue wharf and the Walters Engineering, Inc. Upper Lower Pier have been demolished.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	42		
Name	Oakland Yacht Service Upper Pier.		
Location on Waterfront	550 feet below foot of Livingston Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Oakland Yacht Service.		
Purpose for which Used	Mooring small vessels for repair.		
Type of Construction	Timber-pile, timber-decked, L-shaped pier. Constructed 1949.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	30	60	8 + 52
Depth Alongside at MLLW	5	5-0	5-0
Usable Berthing Space	30	See Remarks	
Width of Apron	Open		
Height of Deck above MLLW	10		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	One 3/4-inch line, for own use. (water)		
(Available to Vessels)			
Railway Connections	None		
Highway Connections	No access to pier; marine repair plant at rear.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Waterline and hose; extinguishers in shed.		
Remarks	Plant for repairing small boats located in rear. One 40- and one 10-ton, marine railway located below and parallel with lower side.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	43		
Name	Port of Oakland Livingston Street Pier.		
Location on Waterfront	Foot of Livingston Street.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Evans Radio Dock (George S. Evans)		
Purpose for which Used	Receipt of fish, mooring small vessels and fishing boats for radio and electronic repairs, and for fueling purposes		
Type of Construction	Concrete-encased timber-pile, asphalt-surfaced timber decked pier; 3-foot-wide timber walkway extends along face and upper and lower sides. Constructed 1934.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	124	292	280
Depth Alongside at MLLW	14-12	12-0	12-0
Usable Berthing Space	124	230	260
Width of Apron	3 open 60	3, 73, open	open, 35
Height of Deck above MLLW	10.5		
Load Capacity per Sq. Ft. (Lbs.)	300		
Lighted or Unlighted	partly lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two 1/2-ton, electric, fixed derricks, each with 25-foot boom; located on lower apron and used for handling fish.		
Pipelines	Two 2-inch lines from pumps to one 10,000-gal-capacity diesel fuel storage tank and one 10,000-gal-capacity gasoline storage tank		
Water Supply and Waste Treatment Facilities	Through several 1 1/2-inch connections. (water)		
(Available to Vessels)			
Railway Connections	None		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Salt water pump and hose; hand extinguishers in building on pier.		
Remarks	Fish-packing and icing plant at rear of outer portion of lower side; used by Regal Seafood Company. One 185-by-16-foot building on pier used by operator for radio and electronic shop, storage, and office.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
43	Evans Radio Dock and Regal Seafood Company	1	250
43	Evans Radio Dock and Regal Seafood Company	1	250
Total		2	500

PIERS, WHARVES, AND DOCKS

Reference Number on Map	44		
Name	Port of Oakland Dennison Street Wharf.		
Location on Waterfront	Below and adjacent to Dennison Street Bridge (causeway to Government Island).		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Boy Scouts of America.		
Purpose for which Used	Mooring small vessels.		
Type of Construction	Timber pile, timber-decked, L-shaped wharf. Constructed 1922.		
Description	Channel side (feet)	Lower side (feet)	
Dimensions	252	215	
Depth Alongside at MLLW	13	13-12	
Usable Berthing Space	252	156	
Width of Apron	58-open	74-open	
Height of Deck above MLLW	13		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None (see remarks)		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	S.T. Johnson Co.: one 6- and one 4-inch pipelines extend from lower side of wharf to 10 steel storage tanks, total capacity 7,140 barrels; not in use.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through metered connection. (water)		
Railway Connections	None		
Highway Connections	No vehicles allowed on wharf.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Hand extinguishers in buildings.		
Remarks	One 1-story, 121-by-36-foot wooden building on wharf (former transit shed) with 4,300 sq. ft. of space for miscellaneous storage. Boy Scouts have small building on wharf and use wharf for Sea Scout vessels.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
44	S.T. Johnson Company (1)	10	7,140
Total		10	7,140

(1) At the time of the survey, this company was not using the waterfront facility for handling petroleum products.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	45		
Name	Wm. J. Cryer & Sons Wharf.		
Location on Waterfront	East side of turning basin, 200 feet above Dennison Street Bridge (Causeway to Government Island).		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Wm. J. Cryer & Sons		
Purpose for which Used	Mooring small vessels for repair.		
Type of Construction	Concrete-encased timber pile, timber-decked, L-shape wharf; small boat mooring and landing floats at lower and upper sides. Constructed 1937.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	78	40 + 110	77 + 64
Depth Alongside at MLLW	11-12	11-12	11-12
Usable Berthing Space	78	5	52
Width of Apron	open, 7, 3	6, open	2, open
Height of Deck above MLLW	12-5		
Load Capacity per Sq. Ft. (Lbs.)	200		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 10-ton, fixed, electric, stiff-leg, timber derrick with 27-foot boom; one 5-ton, gasoline, mobile crane with boom manually adjusted to maximum length of 20 feet.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 3/4- and one 2-inch lines. (water)		
Railway Connections	Southern Pacific Company track serves rear of yard.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	One stationary and one portable electric pumps, hose cart, and hand extinguishers.		
Remarks	One 60- and one 50-ton marine railways located between Dennison Street Bridge and lower side of wharf, and one 150-ton marine railway above and parallel to upper side. Two wooden sheds located on wharf.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	46		
Name	Port of Oakland Frederick Street Wharf.		
Location on Waterfront	East side of Turning -Basin, 600 feet above Dennison Street Bridge (causeway to Government Island.)		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Board of Port Commissioners, and Oakland Scavenger Co.		
Purpose for which Used	Mooring small vessels; loading barges with cannery waste for disposal.		
Type of Construction	Concrete retaining wall on rubblestone bank with solid fill; fronted by concrete-encased, timber pile, timber-decked wharf. Constructed 1938.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	420	112	112
Depth Alongside at MLLW	18-13	18-0	13-0
Usable Berthing Space	420		
Width of Apron	10-75, open		
Height of Deck above MLLW	14.5		
Load Capacity per Sq. Ft. (Lbs.)	350		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None (See Remarks)		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	One 12-inch waste disposal pipeline extends from an asphalt lined reservoir located inside fenced area in rear to face of wharf; cannery waste is brought to reservoir by truck and is ground and processed for disposal.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	None		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	One 4-inch line and hose reels.		
Remarks	One L-shaped, 350-by 110- and 50-foot wooden building on wharf with 19,923 sq. ft. of space leased for private use. Wharf to be demolished.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	47		
Name	ConAgra - Montana, Inc. Wharf		
Location on Waterfront	North side of Inner Harbor channel, foot of E. 7th Street		
Owned by	Ralston Purina Company		
Operated by	West Coast Checkerboard Elevator Company.		
Purpose for which Used	Receipt and shipment of grain.		
Type of Construction	Timber pile, timber decked, offshore wharf with one 75-by 8-foot timber approach, and one 60-by 10-foot truck access ramp from shore; 280-by 8-foot timber walkway extends from upper side fronted by timber mooring dolphins in line with face of wharf. Constructed 1936.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	464	30	30
Depth Alongside at MLLW	30-28		
Usable Berthing Space	744 w/dolphin		
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	400		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	See Remarks		
Mechanical Handling Facilities	Marine tower equipped with hopper and vertical bucket belt elevator; 30-inch reversible, electric, belt conveyor in overhead gallery extends from tower to grain storage silos and processing mill in rear. Grain unloading capacity from self-unloading barge is 150 tons of wheat per hour. (see remarks)		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 2 1/2-inch metered line at published tariff rates plus wharfage charge. (water)		
Railway Connections	Southern Pacific Company tracks serve grain elevator and mill in rear.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 440 volts, 3-phase, 60 cycle.		
Fire Protection (Other than City)	Automatic alarm system to fire department; 2 1/2-inch waterline, hose station, and watchmen while ship is at berth.		
Remarks	Concrete silos in rear of wharf have total storage capacity of 1,125,000 bushels. The mill is used for processing and packaging grain food products for animal consumption. (Mechanical Handling Facilities Cont.)- One gravity spout on tower loads 420 tons of wheat per hour to vessels. Trucks on wharf can be loaded with wheat by vessel-loading spout.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	48		
Name	Rhodes & Jamieson, Ltd. wharf.		
Location on Waterfront	North side of Inner Harbor Channel, just below park Street Bridge.		
Owned by	Rhodes & Jamieson, Ltd.		
Operated by	Rhodes & Jamieson, Ltd.		
Purpose for which Used	Receipt of sand.		
Type of Construction	Timber pile, timber-decked. Constructed 1940.		
Description	Face (feet)	Upper Side (feet)	Lower Side (feet)
Dimensions	98	10	10
Depth Alongside at MLLW	10		
Usable Berthing Space	98		
Width of Apron	Open		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	300		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One gasoline, crawler crane with 40-foot boom and 3/4-cubic yard clamshell bucket; one gasoline, crawler crane with 40-foot boom and 1/2-cubic yard clamshell bucket; one gasoline, front-end loader with 1/2-cubic yard bucket-scoop for cleaning out barges.		
Pipelines	None		
Water Supply and Waste Treatment Facilities			
(Available to Vessels)	Through 1-inch waterline.		
Railway Connections	One 200-foot surface track serves yard area in rear; connects with Southern Pacific Company		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Fire extinguishers on cranes, and waterline.		
Remarks	Concrete batch plant in rear. Open storage area in rear has capacity for 21,000 tons of sand. Two steel, truck loading hoppers located at rear; each has a capacity for 60-tons. Trucks transport sand from hoppers to batch plant.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	49		
Name	Shell Oil Company Wharf		
Location on Waterfront	North side of Tidal Canal, 200 feet below foot of Derby Street.		
Owned by	Shell Oil Company		
Operated by	Shell Oil Company		
Purpose for which Used	Receipt of petroleum products; occasional bunkering of small vessels.		
Type of Construction	Offshore wharf and timber pile, timber-decked, with 34 by 4-foot timber approach; face of wharf, fronted by four timber mooring dolphins. Shorewharf: timber pile, timber-decked pier; rear of wharf deck is concrete elevated above ground level. Constructed 1956. (See remarks)		
Description	Offshore Wharf Face (feet)	Shore Wharf (feet)	
Dimensions	20	178	
Depth Alongside at MLLW	5	5	
Usable Berthing Space	175 w/dolphin	178	
Width of Apron	open		
Height of Deck above MLLW	16.7	-	
Load Capacity per Sq. Ft. (Lbs.)	-	300	
Lighted or Unlighted	Lighted	-	
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	Three 6-inch pipelines extend from offshore wharf, and one 2-inch bunker pipeline extends from shore wharf to 25 steel storage tanks in rear, total capacity 35,240 barrels.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 1 1/2-inch connection on wharf for own use. (water)		
Railway Connections	One 175-surface track serves tank-car loading rack in rear of storage tanks; connects with Southern Pacific track on Glascock Street.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	Through two outlets for own use; A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Chemical cart, hose reels, two electric fire pumps, capacity 100 gallons per minute each.		
Remarks	Shore wharf is located below approach to offshore wharf; face extends along face of shore wharf with gate at upper end for access to connection for bunkering small vessels.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
49	Shell Oil Company (1)	25	35,240
Total		25	35,240

(1) Furnishes diesel fuel to tugs, fishing boats, and other types of small vessels.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	50		
Name	The Learner Company Fruitvale Yard Wharf.		
Location on Waterfront	East side of Tidal Canal, 700 feet below High Street Bridge.		
Owned by	The Learner Company		
Operated by	The Learner Company		
Purpose for which Used	Receipt of scrap metal by barge.		
Type of Construction	Remains of timber pile, timber-decked, shore wharf; center portion supporting locomotive crane tracks reinforced to face of wharf. Constructed 1951.		
Description	Face (feet)		
Dimensions	220		
Depth Alongside at MLLW	15		
Usable Berthing Space	220		
Width of Apron	open		
Height of Deck above MLLW	13		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lights on crane		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Three diesel locomotive cranes: one of 55-ton capacity with 55-foot boom, equipped with 65-inch diameter electric magnet; two of 35-ton capacity, each with 60-foot boom and 55-inch magnets; one 20-ton, diesel, mobile crane with 50-foot boom.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	Through waterlines for own use.		
(Available to Vessels)			
Railway Connections	One surface track serves yard in rear and extends over center reinforced portion of wharf to face; connects with Southern Pacific Company.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Electric fire pump, waterlines, hose and watchmen.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	51		
Name	ARCO (formerly Richfield) Oil Corporation Wharf.		
Location on Waterfront	East side of Tidal Canal, just below High Street Bridge.		
Owned by	ARCO Oil Corporation		
Operated by	Not operated		
Purpose for which Used	Not used for waterborne commerce.		
Type of Construction	Timber bulkhead, solid fill fronted by timber pile, timber-decked, shore wharf; upper rear 100-by 20-foot portion of wharf has no decking and is fenced. Constructed 1946.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	175	40	20
Depth Alongside at MLLW	5-4	-	-
Usable Berthing Space	175	-	-
Width of Apron	open		
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	ARCO Oil Corporation: two 6-inch pipelines extend from wharf to three steel storage tanks located 350 feet in rear, total capacity 14,420 barrels. (See Remarks Below)		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	One surface track serves ARCO Oil Corporation terminal in rear; connects with Southern Pacific Company.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Hand extinguishers and chemical cart.		
Remarks (Pipelines Cont.)	American Mineral Spirits Company: One 6-inch pipeline extends from wharf to four steel storage tanks located 200 feet in rear, total capacity 14,400 barrels.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
51	Richfield Oil Corporation (1)	3	14,420
51	American Mineral Spirits Co. (1)	4	14,400
Total		7	28,820

(1) At the time of the survey, this company was not using the waterfront facility for handling petroleum products.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	52
Name	Tidewater Sand & Gravel Co. Wharf.
Location on Waterfront	East side of Tidal Canal, 400-feet above High Street Bridge
Owned by	Mrs. Lillian Meglen.
Operated by	Tidewater Sand & Gravel Company.
Purpose for which Used	Receipt of sand and gravel by barge.
Type of Construction	Timber pile, timber-decked, shore wharf. Constructed 1966.
Description	
Dimensions	275
Depth Alongside at MLLW	4
Usable Berthing Space	275
Width of Apron	open
Height of Deck above MLLW	14
Load Capacity per Sq. Ft. (Lbs.)	
Lighted or Unlighted	Lights on crane
Storage Space	
Covered (Transit Sheds)	
Cargo Type (Bulk, Container, Etc.)	
Number and Type of Construction	None
Length and Width (Feet)	
Height Inside (Feet)	
Floor Area for Cargo (Sq. Ft.)	
Load Capacity per Sq. Ft. (Lbs.)	
Cargo Doors	
Open	
Cargo Type	
Area (Acres)	
Surfacing Type	
Tank (Other than Petroleum)	
Mechanical Handling Facilities	One diesel, crawler crane with 55-foot boom and 1 1/4-cubic yard clamshell bucket; one gasoline, mobile crane with 45-foot boom and 5/8-cubic yard clamshell bucket used in yard.
Pipelines	None
Water Supply and Waste Treatment Facilities (Available to Vessels)	None
Railway Connections	One 230-foot surface track on wharf connects with Southern Pacific Company.
Highway Connections	U.S. 40, 50, 80 and State 17.
Electric Current (Available to Vessels)	A.C., 440 volts, 3-phase, 60-cycle, for own use.
Fire Protection (Other than City)	Waterlines and hose in yard, hand extinguishers on crane, and portable gasoline pump.
Remarks	Sand and gravel sales and distribution yard located in rear.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	53		
Name	Port of Oakland Airport Wharf		
Location on Waterfront	San Leandro Bay at South End of Airport Channel.		
Owned by	City of Oakland, Board of Port Commissioners.		
Operated by	Board of Port Commissioners.		
Purpose for which Used	Fishing		
Type of Construction	Timber pile, timber-decked, shore wharf. Constructed 1928.		
Description	Face (feet)	Lower Side (feet)	
Dimensions	423	77	
Depth Alongside at MLLW	8-4	-	
Usable Berthing Space	423	-	
Width of Apron	Open		
Height of Deck above MLLW	11		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through 2-1/2 inch line (water)		
Railway Connections	None		
Highway Connections	U.S. 40,50,80 and State 17		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	One 2-1/2 inch line, two standpipes with four nozzles located at lower end.		
Remarks	Lower 30-foot section of wharf provides fire truck access to two standpipes located near lower side; center portion of wharf deck in poor condition. Rear of wharf is barricaded and fences, as well as center portion of wharf deck which is in poor condition. The Port of Oakland Airport Oil Wharf has been demolished.		



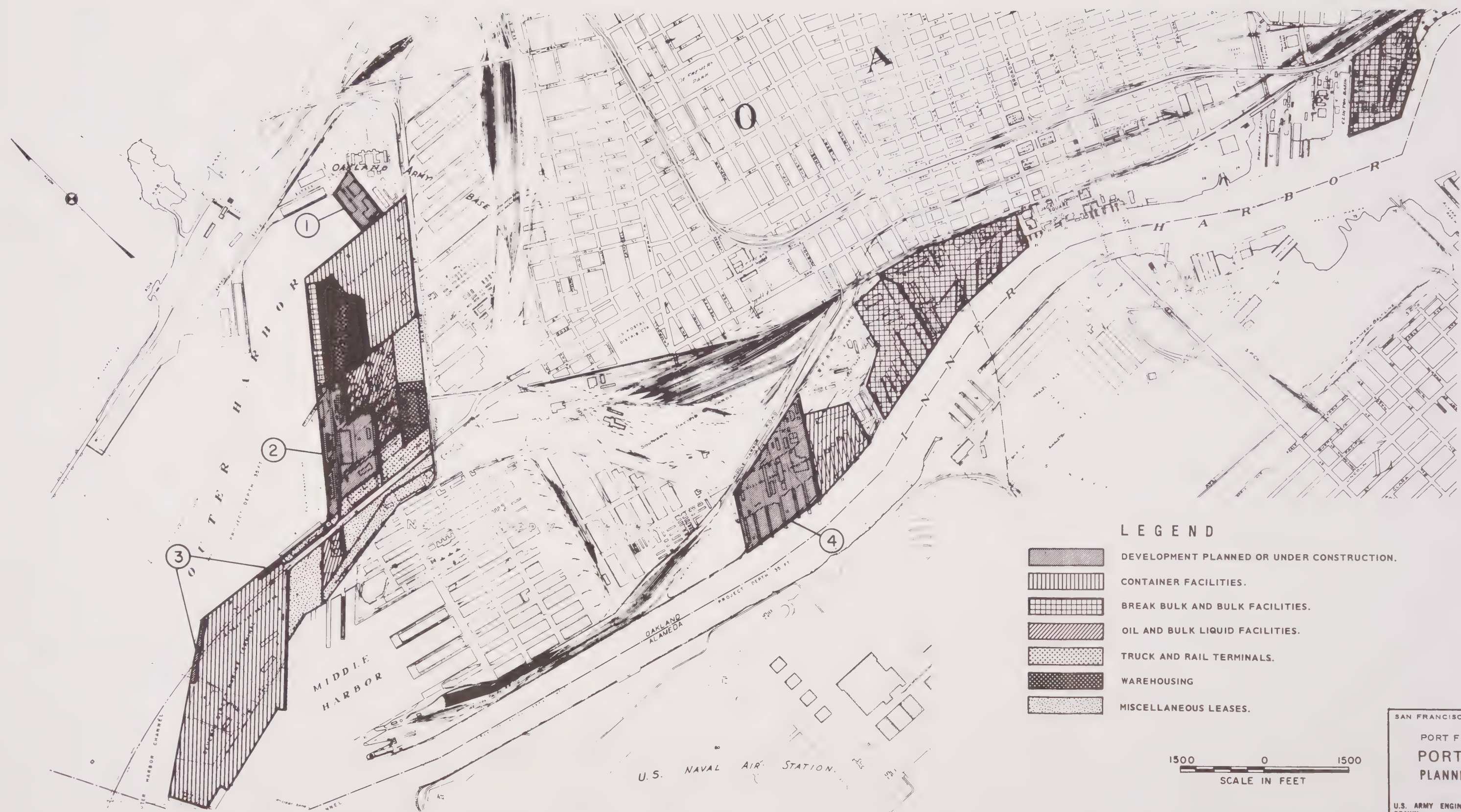
SAN FRANCISCO BAY AREA IN-DEPTH STUDY CALIFORNIA
PORT FACILITIES INVENTORY

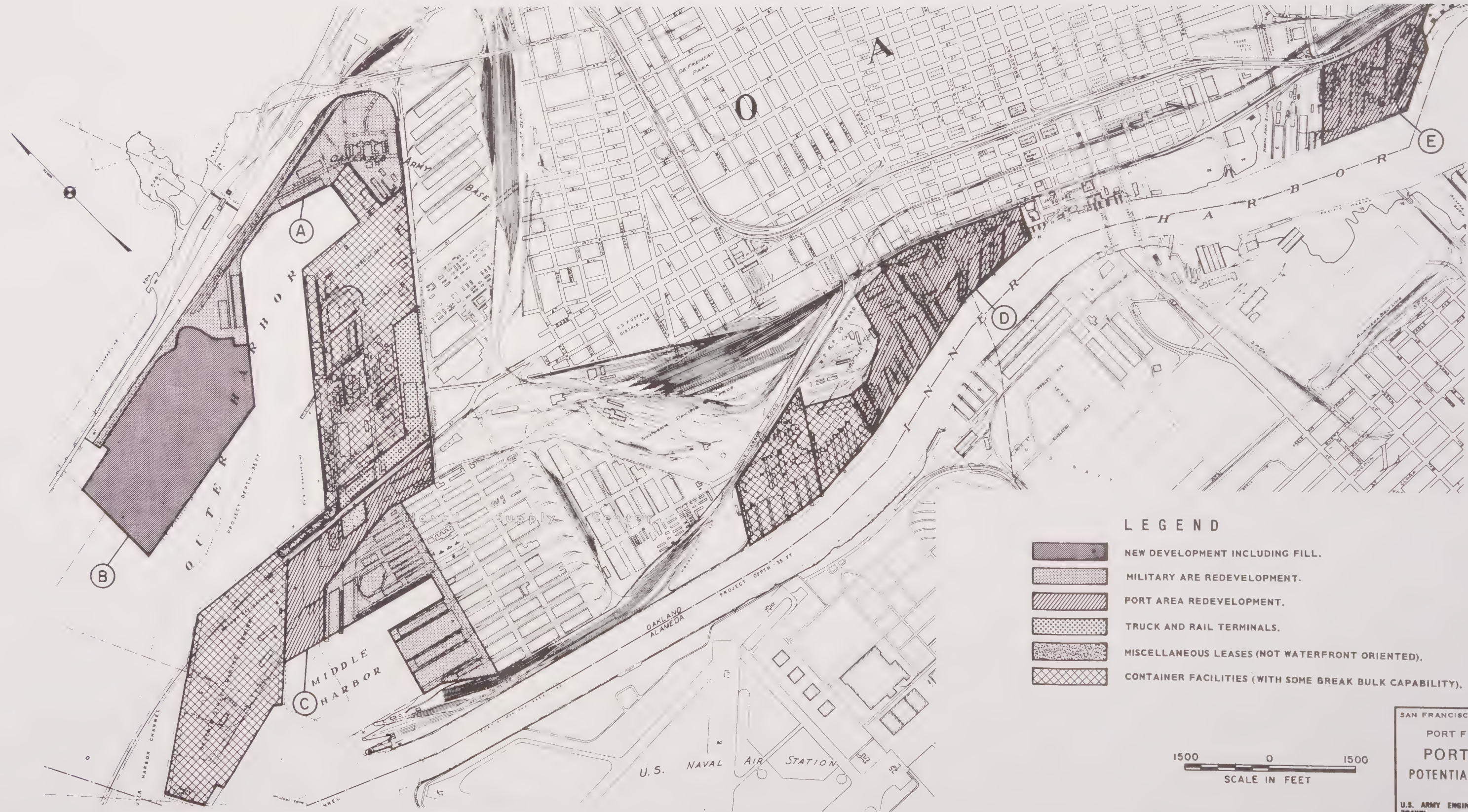
PORT FACILITIES AT
OAKLAND AND ALAMEDA, CALIF.

SCALE IN FEET
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U.S. ARMY ENGINEER DISTRICT, SAN FRANCISCO, CORPS OF ENGINEERS
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TRACE: [unintelligible] TO ACCOMPANY REPORT
CHECKED: [unintelligible] DATED: MAR 1973
1-1-185

PLATE 18





LEGEND

- NEW DEVELOPMENT INCLUDING FILL.
- MILITARY ARE REDEVELOPMENT.
- PORT AREA REDEVELOPMENT.
- TRUCK AND RAIL TERMINALS.
- MISCELLANEOUS LEASES (NOT WATERFRONT ORIENTED).
- CONTAINER FACILITIES (WITH SOME BREAK BULK CAPABILITY).



SAN FRANCISCO BAY AREA IN-DEPTH STUDY

PORT FACILITIES INVENTORY

PORT OF OAKLAND

POTENTIAL PORT DEVELOPMENT

U.S. ARMY ENGINEER DIST., SAN FRANCISCO, C OF E

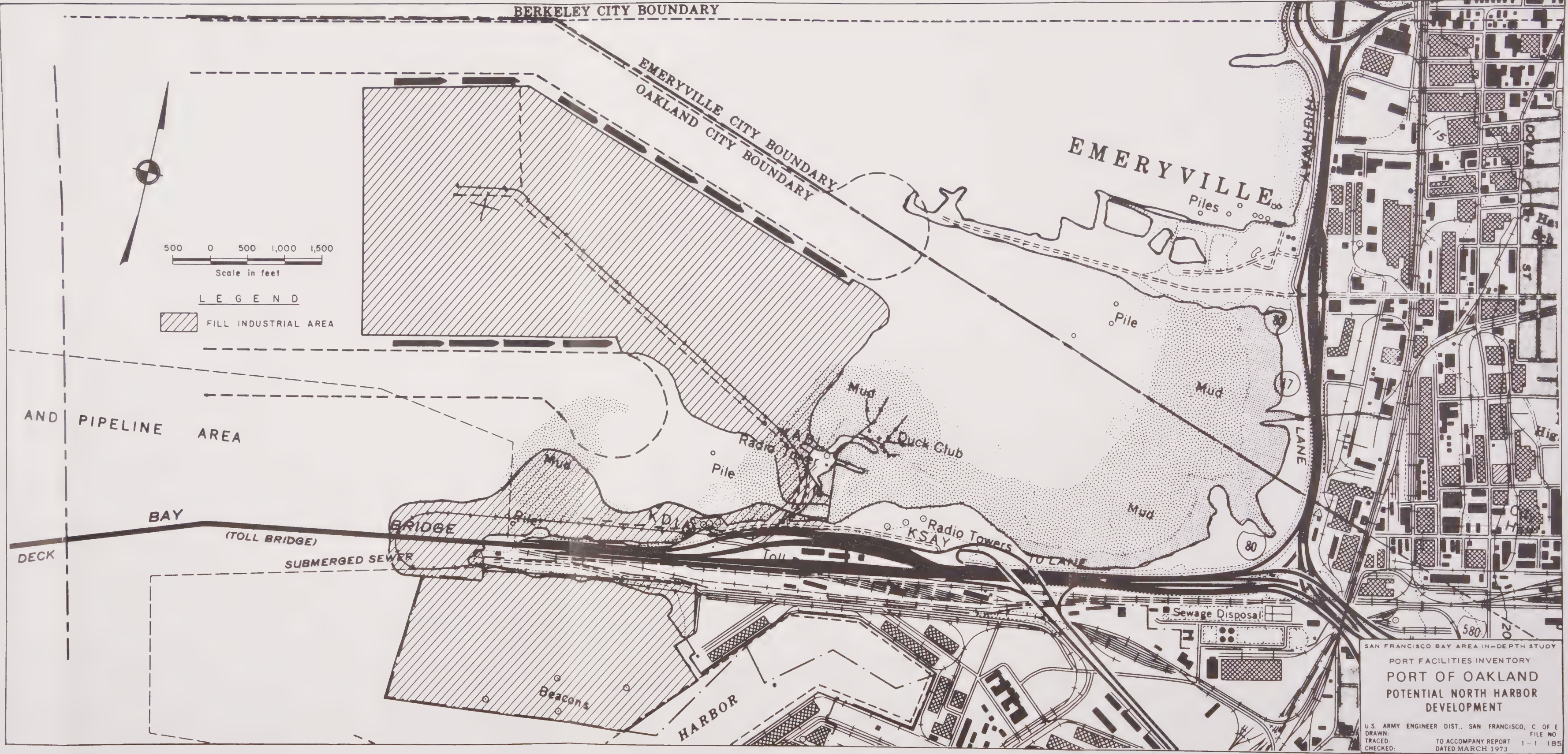
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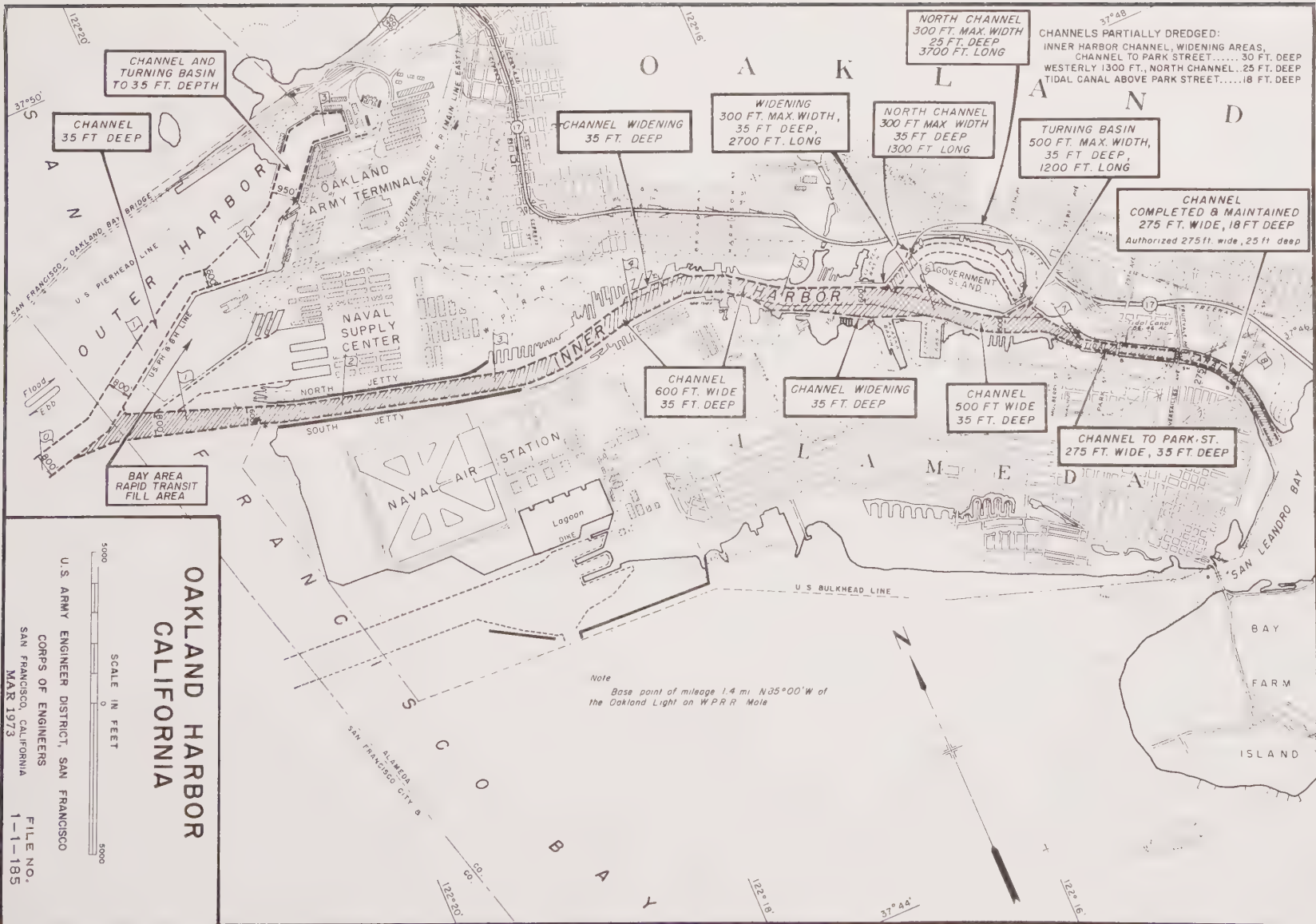
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TO ACCOMPANY REPORT 1-1-185

DATED MAR 1973



SAN FRANCISCO BAY AREA IN-DEPTH STUDY
PORT FACILITIES INVENTORY
PORT OF OAKLAND
POTENTIAL NORTH HARBOR
DEVELOPMENT
U.S. ARMY ENGINEER DIST., SAN FRANCISCO, C OF E
DRAWN: FILE NO.
TRACED: 1-1-185
CHECKED: DATED MARCH 1973



12. PORT OF ALAMEDA

a. Existing port facilities.

(1) The Port of Alameda is located along the northern perimeter of the city of Alameda, which in turn is located on an island across the Inner Harbor Channel from Oakland. Waterfront facilities of the port extend from the Middle Harbor portion of the Oakland-Alameda Estuary to the Fruitvale Avenue Bridge crossing of the tidal channel.

(2) Twenty-two piers, wharves, and docks are described in this report for the Port of Alameda. Each of these 22 facilities is described in detail under the reference number in the table "Piers, Wharves, and Docks" on the following pages. The reference number assigned to each facility is used to designate its location on Plate 18.

(3) Port facilities usage at the Port of Alameda is as follows: three are used for handling of general cargo and foreign and domestic trade; in addition each has pipeline connections for the receipt and/or shipment of various bulk liquids including vegetable oils, corn syrup, petrochemicals and petroleum products and one of the three is equipped to handle containers; six facilities are used in connection with making repairs to large vessels and various types of small craft; one facility is used for the receipt of rock and gravel; and four facilities are used for mooring of tugs and barges and company craft. Eight facilities are currently not being used. Since 1962 a total of eight facilities have been converted to marina usage.

b. Planned and potential port facilities. There are presently no known plans for immediate development of navigation facilities nor are there any known potential facilities to be constructed on the Alameda waterfront. However, a land use plan was developed as a part of a comprehensive general plan by a consulting firm for the city of Alameda in 1968. This land use plan is shown on Plate 23.

c. Railroad service. (Same as Port of Oakland).

d. Existing and planned channels. (Same as Port of Oakland).



Oakland Inner Harbor and the Port of Alameda. Container terminals and ship repair facilities line the Oakland Estuary.

LIST OF PIERS, WHARVES, AND DOCKS AT ALAMEDA, CALIFORNIA

Ref	Facilities	Page
1	Cal-Rock Powell Brothers Concrete Plant Wharf	193
2	Stone Boat Yard Wharf	194
3	Pacific Coast Engineering Company, Paceco, Division of Fruehauf Corporation Oil Wharf	195
4	Pacific Coast Engineering Company, Paceco, Division of Fruehauf Corporation Wharf	196
5	J.H. Baxter & Company Wharf and Pier	197
6	Santa Fe Pomeroy, Inc. Pier	198
7	The Harbor Tug & Barge Company Upper Pier	199
8	The Harbor Tug & Barge Company Middle Pier	200
9	The Harbor Tug & Barge Company Lower Pier	201
10	Encinal Terminals Long Wharf, Berths 6 and 7	202
11	Encinal Terminals Wharf, Berths 1, 2, 3, and 1 . . .	204
12	Encinal Terminals Wharf, Berth 5	206
13	Atchison, Topeka and Santa Fe Car Float Slip	207
14	Calpack Properties, Inc.	208
15	Calpack Properties Inc., Wharf	209
16	Calpack Properties, Inc., Pier	210
17	Pacific Cement & Aggregates, Inc., Wharf	211
18	Tidewater Oil (Phillips Petroleum) Company Wharf . .	212
19	Todd Alameda Pier No. 4	213
20	Todd Alameda Pier No. 3	214
21	Todd Alameda Pier No. 2	215
22	Todd Alameda Marginal Wharf No. 5	216

PIERS, WHARVES, AND DOCKS

Reference Number on Map	1		
Name	Cal-Rock Powell Brothers Concrete Plant Wharf		
Location on Waterfront	South side of Tidal Canal, 200 feet below Fruitvale Avenue Bridge.		
Owned by	California Rock and Gravel		
Operated by	California Rock and Gravel		
Purpose for which Used	Receipt of sand and other commodities by barge.		
Type of Construction	Concrete bulkhead, solid fill, with timber pile, concrete-surfaced, timber-decked wharf extension; face of wharf fronted by timber fenders. Constructed approx. 1920.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	94	20	30
Depth Alongside at MLLW	5	-	-
Usable Berthing Space	94	-	-
Width of Apron	open		
Height of Deck above MLLW	13		
Load Capacity per Sq. Ft. (Lbs.)	350		
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Aggregates		
Area (Acres)	7.3		
Surfacing Type	Unsurfaced		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Rented truck cranes are used for unloading sand from barges and/or barges also pump directly to 16-inch electric belt conveyor system.		
Pipelines	None		
Water Supply and Waste Treatment Facilities Available to Vessels)	Through two 1-inch connections for own use (city potable water supply)		
Railway Connections	One 150-foot spur track in rear of yard connects with Southern Pacific Co.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	Through one outlet: A.C., 110 volts, single-phase, 60-cycle, 440 volt, 3 phase		
Fire Protection (Other than City)	None		
Remarks	Concrete batch plant and building materials located in yard at rear; ready-mix and transit-mix truck fleet.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	2		
Name	Stone Boat Yard Wharf		
Location on Waterfront	South side of Tidal Canal, between foot of Broadway and Everett Street.		
Owned by	Mr. John Bentzen		
Operated by	Stone Boat Yard		
Purpose for which Used	Mooring small vessels for repair and outfitting.		
Type of Construction	Timber pile, timber-decked wharf. Constructed 1941.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	90	50	20
Depth Alongside at MLLW	3-0	4-0	2-0
Usable Berthing Space	90	See Remarks	-
Width of Apron	Open		
Height of Deck above MLLW	9		
Load Capacity per Sq. Ft. (Lbs.)	200		
Lighted or Unlighted	Partly lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None on wharf. One fixed, electric, revolving, hammerhead crane on tower serves marine railway, maximum capacity 5 tons; a three (3)-ton capacity at 70-foot radius.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 3/4-inch water connection and hose. (City potable water supply)		
Railway Connections	Southern Pacific Company tracks on Blanding Avenue in rear.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	Through two outlets; A.C., 110 volts, single-phase, 60 cycle; A.C., 220 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	One 2 1/2-inch waterline, hand extinguishers in plant buildings, and gasoline-operated pump, for salt water.		
Remarks	One 200-ton, marine railway is located along lower side of wharf. A 140-by 12 foot timber pile, timber-decked pier is located along opposite side and serves marine railway; 80-by 15-foot timber walkway connects lower side of pier with timber remains of an old wharf providing approximately 90 feet of additional berthing space with 5-foot depth of water alongside.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	3		
Name	Pacific Coast Engineering Company Paceco, Div. of Fruehauf Corp. Oil Wharf		
Location on Waterfront	500 feet below Park Street Bridge.		
Owned by	Estate of Edward and Marie Beck		
Operated by	Not operated		
Purpose for which Used	Not used		
Type of Construction	Timber pile, timber-decked, offshore wharf. With 17-by-12-foot timber approach extending from timber bulkhead in rear. Face of wharf is fronted by five timber mooring dolphins. Constructed approx. 1920.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	160	8	8
Depth Alongside at MLLW	12	-	-
Usable Berthing Space	160	-	-
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	None		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	4		
Name	Pacific Coast Engineering Company Paceco, Div. of Fruehauf Corporation Wharf		
Location on Waterfront	800 feet below Park Street Bridge		
Owned by	Paceco, Div. of Fruehauf Corporation		
Operated by	Paceco, Div. of Fruehauf Corporation		
Purpose for which Used	Mooring vessels for outfitting and repair		
Type of Construction	Timber pile, concrete-surface, timber-decked wharf. Constructed approx. 1920.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	215	85	50
Depth Alongside at MLLW	19-16	-	-
Usable Berthing Space	215	-	-
Width of Apron	Open		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Portable lights		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)	2 ship-building and launching ways located west of wharf.		
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two 43 ton, electric, traveling, revolving, full-portal, gantry cranes, each with 110-foot boom; cranes serve plant yard area in rear; one of the cranes (No. 2) also serves lower portion of wharf; and one 40-ton, electric, traveling, revolving, full-portal, gantry crane with 80-foot boom serves		
Pipelines	2 ship-building and launching ways located west of wharf. (See Remarks)/ None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	City potable water supply on wharf.		
Railway Connections	Two surface tracks serve plant in rear; connect with Southern Pacific Co.		
Highway Connections	U.S. 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110/440 volts, single- and three phase. 60cycle; D.C. generators available as needed.		
Fire Protection (Other than City)	Three hydrant and hose stations on wharf, portable pumps, hand extinguishers, and watchmen.		
Remarks	The 40-ton, gantry crane is located on a concrete and steel pier crane-way located between and parallel with the 2 shipbuilding and launching ways. Additional berthing is available for vessels and barges by mooring across outer ends of shipbuilding ways and crane-way.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	5		
Name	J.H. Baxter & Co. Wharf and Pier (former designation)		
Location on Waterfront	Between foot of Oak and Mulberry Streets.		
Owned by	Mr. John Bentzen		
Operated by	Not operated		
Purpose for which Used	Not used		
Type of Construction	Wharf: timber piling with timber stringers, undecked; pier: timber pile, timber-decked.		
Description	Face of Wharf (feet)	Face of Pier (feet)	Sides of Pier (feet)
Dimensions	300	8	60 each
Depth Alongside at MLLW	4	12-4	12-4
Usable Berthing Space	-	8	-
Width of Apron	-		
Height of Deck above MLLW	12-14		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lights in yard at rear.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	One 6-inch pipeline extends from pier to one steel creosote storage tank located in yard, total capacity 11,350 barrels.		
Water Supply and Waste Treatment Facilities	None		
(Available to Vessels)			
Railway Connections	Plant trackage in rear connects with Alameda Belt Line and Southern Pacific Co.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hydrants, hose, and Alameda Patrol Service.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	6		
Name	Santa Fe Pomeroy, Inc. Pier		
Location on Waterfront	100 feet above foot of Stanford Street extended		
Owned by	City of Alameda and Santa Fe Pomeroy, Inc.		
Operated by	Santa Fe Pomeroy, Inc.		
Purpose for which Used	Mooring tugs and barges		
Type of Construction	Timber pile, timber decked utility pier with timber retaining bulkhead extending easterly from pier 225 feet. Constructed approx. 1961.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	40	40	25
Depth Alongside at MLLW	12	12	12
Usable Berthing Space	40	40	-
Width of Apron	Open		
Height of Deck above MLLW	8		
Load Capacity per Sq. Ft. (Lbs.)	50		
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 1-inch connections off 2-inch water line at bulkhead (city potable water supply)		
Railway Connections	Alameda Belt Line and Southern Pacific Company tracks on Clement Avenue in rear.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, 60-cycle		
Fire Protection (Other than City)	Fire standpipes and hose.		
Remarks	Former graving dock located west of pier is used only as barge storage area. The former facilities occupied by The Pacific Shops, Inc. have now been converted to marina facilities.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	7		
Name	The Harbor Tug & Barge Co. Upper Pier		
Location on Waterfront	Below foot of Grand Street		
Owned by	City of Alameda		
Operated by	The Harbor Tug & Barge Company		
Purpose for which Used	Mooring, maintenance, and repairs to company - owned floating equipment.		
Type of Construction	Timber pile - timber decked pier. Constructed 1930.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	17	140	110
Depth Alongside at MLLW	18	10-0	10-0
Usable Berthing Space	17	140	See Remark No. 1
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Partly lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 2-inch line on pier for own use. (City potable water supply)		
Railway Connections	None		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Waterline and hose; hand extinguishers in building.		
Remarks	A high, board fence extends along upper side of pier. Lower side forms slip approximately 60 feet wide with upper side of Harbor Tug & Barge Co. Middle Pier. Inner ends of company-operated Upper, Middle, and Lower Piers are connected by a timber pile, timber-decked, shore wharf.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	8		
Name	The Harbor Tug & Barge Co. Middle Pier.		
Location on Waterfront	Between Foot of Grand and Hubbard Streets.		
Owned by	City of Alameda.		
Operated by	The Harbor Tug & Barge Company.		
Purpose for which Used	Mooring, maintenance, and repairs to company-owned floating equipment.		
Type of Construction	Timber pile, timber-decked pier. Constructed 1930.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	10	145	145
Depth Alongside at MLLW	10	10-0	10-0
Usable Berthing Space	-	145	145
Width of Apron	open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	150		
Lighted or Unlighted	partly lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 3/4-inch connection at bulkhead platform, for own use (city potable water supply)		
Railway Connections	None		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Water connection and hose; hand extinguishers in building.		
Remarks	Lower side forms slip approximately 135 feet wide with upper side of Harbor Tug & Barge Co. Lower Pier. Inner ends of company-operated Upper, Middle, and Lower Piers are connected by a timber pile, timber-decked shore wharf.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	9		
Name	The Harbor Tug & Barge Co. Lower Pier		
Location on Waterfront	Between foot of Grand and Hubbard Streets.		
Owned by	City of Alameda		
Operated by	The Harbor Tug & Barge Company		
Purpose for which Used	Mooring, maintenance and repairs to company - owned floating equipment; receipt of petroleum products; fueling own tugs.		
Type of Construction	Timber pile, timber-decked pier. Constructed 1930		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	30	200	175
Depth Alongside at MLLW	12	12-0	12-0
Usable Berthing Space	30		175
Width of Apron	15 and open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	250		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	One 4-inch pipeline extends from pier to 7 steel, diesel fuel storage tanks; total capacity 9,100 barrels.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 3/4-inch line on pier, for own use. (City potable water supply)		
Railway Connections	None		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Water connection, hose, and hand extinguishers		
Remarks	Oil barges berth across face of pier. Tugs are supplied with diesel fuel along upper side. The company's main dispatch office is located at Pier 41, San Francisco, Calif.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
9	The Harbor Tug & Barge Co. (1)	7	9,100
Total		7	9,100

(1) Furnishes diesel fuel to company-owned tugs.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	10		
Name	Encinal Terminals Long Wharf, Berths 7 and 6.		
Location on Waterfront	Upper side of Fortmann Basin, between foot of Paru and Stanton Streets extended.		
Owned by	Encinal Terminals		
Operated by	Encinal Terminals		
Purpose for which Used	Receipt and/or shipment of bulk or drummed liquids, including tallow, vegetable oil, petrochemicals, corn syrup and lube oil.		
Type of Construction	Timber pile, timber-decked wharf with 650- by 40-foot timber pile, timber-decked extension at outer end in line with face. Constructed approximately 1935.		
Description	Face (feet)	Rear of Face (feet)	
Dimensions	1,240 w/ pier	650	
Depth Alongside at MLLW	30	17-0	
Usable Berthing Space	1,240	650	
Width of Apron	Open and 4'		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	500-600		
Lighted or Unlighted	Lighted		
Storage Space (covered (Transit Sheds) Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One - timber frame, metal-covered; raised concrete floor.		
Length and Width (Feet)	Shed D; 225 by 90		
Height Inside (Feet)	23		
Floor Area for Cargo (Sq. Ft.)	14,200		
Load Capacity per Sq. Ft. (Lbs.)	750		
Cargo Doors	Shipside: Four, 12 by 12 feet; ends:		
Open	Two, 16 by 16 feet; rear: four, 12 by 12 foot		
Cargo Type	combination rail and truck doors.		
Area (Acres)	1.5		
Surfacing Type			
Tank (Other than Petroleum)	3.3 tanks - capacity 73,000 barrels		
Mechanical Handling Facilities	Various forklifts and tractors.		
Pipelines	Fore Terminals, Inc. (Plant No. 1): one 8- and one 6-inch pipelines extend from connections along face of wharf to (Cont'd on next sheet)		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through several 1-1/2-inch connections off 4-inch line; metered rates. (Potable city water supply)		
Railway Connections	One 225-foot surface track along rear of transit shed; connects with Alameda Belt Line.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	Through outlets in shed D; A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Waterline, hose carts, chemical carts, hand extinguishers, A.D.T. service, watchmen, sprinklers in shed.		
Remarks	Three electric and one gasoline, portable pumps available for transferring liquids to and from vessels, storage tanks, and tank cars and trucks. Bulk liquid terminal has special tanking facilities and tank farm which can handle 12 million gallons.		

(10-Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	10		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines	33 bulk liquid storage tanks located at rear of head of basin, total capacity 73,000 barrels.		
Water Supply and Waste Treatment Facilities			
Railway Connections			
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	11		
Name	Encinal Terminals Wharf, Berths 4,3,2, and 1.		
Location on Waterfront	Upper side of Encinal Basin.		
Owned by	Encina. Terminals.		
Operated by	Universal Terminal and Stevedoring Corporation of Calif.		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade; receipt and/or shipment of bulk or drummed liquids.		
Type of Construction	North side and outer 750-foot section of face: timber pile, timber-decked wharf, part asphalt and part concrete-surfaced; inner 850 feet of face: concrete pile, concrete-decked wharf. A curved, timber rail trestle connects upper end of north side to shore. Const. approx. 1925.		
Description	Face (feet)	North Side (feet)	
Dimensions	1,600	525	
Depth Alongside at MLLW	32	32	
Usable Berthing Space	1,600	525	
Width of Apron	3'	open	
Height of Deck above MLLW	14.5		
Load Capacity per Sq. Ft. (Lbs.)	600		
Lighted or Unlighted	Lighted		
Storage Space	Units A and B: timber frame, metal-covered, asphalt-surfaced, concrete floors; Sheds 6,7,8: steel frame, metal-covered; each open on west side. (See Remarks Below)		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Unit A	Unit B	Sheds 6&7 Shed 8
Length and Width (Feet)	700x160	660x160	120x85, ea. 185x130
Height Inside (Feet)	20	20	18, ea. 18
Floor Area for Cargo (Sq. Ft.)	78,400	78,920	11,400, ea. 24,000
Load Capacity per Sq.Ft. (Lbs.)	600	600	1,000, ea. 1,000
Cargo Doors	Units A and B-Shipside: thirty, 12 by 16 feet; (See Remarks)		
Open			
Cargo Type	General (non-container) and bulk		
Area (Acres)	2.0 - rear of sheds 6,7 and 8		
Surfacing Type			
Tank (Other than Petroleum)	Fore Terminals - 4 tanks - capacity 40,500 barrels		
Mechanical Handling Facilities	Various forklifts and tractors.		
Pipelines	Fore Terminals, Inc. (Plant No. 2): one 6-inch pipeline from connections on face to 4 bulk liquid storage tanks. Pennzoil Company: (Cont'd on the next sheet)		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through several 1-1/2-inch connections off a 2-1/2-inch line; metered rates. (Potable city water supply)		
Railway Connections	One 510-foot surface track on apron along north side: 2 surface tracks on apron along face, total length 3,000 feet; (Cont'd on the next sheet)		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle in sheds; A.C., 220 volts, 3-phase, 60-cycle, for own use.		
Fire Protection (Other than City)	Waterlines, hydrants, hose, chemical carts, hand extinguishers, one 100,000-gal. water tower, A.D.T. service watchmen, and sprinklers in sheds.		
Remarks (Storage Space - Cargo Type Cont.)	General (non-container) and bulk. (Cargo Doors Cont.) rear: thirty-three, 12 by 12 feet; and two 20- by 16-foot doors at each end. Sheds 6,7, and 8 are located in rear of Units A and B.		

(11-Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	11		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines	one 6-inch pipeline extends from connections on face to 11 steel petroleum storage tanks, total capacity 40,450 barrels.		
Water Supply and Waste Treatment Facilities			
Railway Connections	2 platform-level tracks along rear of Units A and B, total length 2,400 feet; and one 500-foot surface track along rear of Sheds 6,7 and 8; all connect with Alameda Belt Line		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
11	Pennzoil Company (Used jointly by Encinal Terminals Wharf, berths 1,2,3,4 and 5).	11	40,450
Total		11	40,450

PIERS, WHARVES, AND DOCKS

Reference Number on Map	12		
Name	Encinal Terminals Wharf, Berth 5.		
Location on Waterfront	Lower side of Encinal Basin.		
Owned by	Encinal Terminals		
Operated by	Universal Terminal and Stevedoring Corporation of California		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade; handling containerized cargo; receipt of petroleum products; receipt and/or shipment of bulk liquids.		
Type of Construction	Timber pile, timber-decked wharf; north 175 feet of wharf lies offshore with curved, timber approach from shore to north side and one 75- by 25-foot approach to rear. Part of wharf deck is concrete paved and all is asphalt surfaced. Constructed approximately 1936.		
Description	Face (feet)	North Side (feet)	
Dimensions	750	50	
Depth Alongside at MLLW	35	-	
Usable Berthing Space	750	-	
Width of Apron	35 and open		
Height of Deck above MLLW	14.5		
Load Capacity per Sq. Ft. (Lbs.)	600		
Lighted or Unlighted	Lighted		
Storage Space	General and bulk		
Covered (Transit Sheds)	General and bulk		
Cargo Type (Bulk, Container, Etc.)	One - timber frame, metal-covered, asphalt-surfaced concrete		
Number and Type of Construction	Unit C - 420 by 180 floor./		
Length and Width (Feet)	20		
Height Inside (Feet)	75,000		
Floor Area for Cargo (Sq. Ft.)	600		
Load Capacity per Sq. Ft. (Lbs.)	Shipside: ten, 12 by 16 feet, rear:		
Cargo Doors	six, 12 by 12 feet, and four, 10 by 12 feet; each end: one 20 by 16 feet.		
Open	Container - Matson Terminals, Inc., Yards Nos. 1		
Cargo Type	4 (total) and 2 located north and north-st		
Area (Acres)	Asphaltic concrete of wharf. Approx. 1.0 acre open storage		
Surfacing Type	space available south of transit shed./		
Tank (Other than Petroleum)	Various forklifts and tractors. Matson Terminals, Inc.: one PACECO 25-ton, electric, traveling, full-portal, gantry crane used for loading and unloading containers.		
Mechanical Handling Facilities	Fore Terminals, Inc. and Penzoil Company have a 6-inch pipeline extending from face to storage tanks referenced under Berths 4,3,2 and 1.		
Pipelines	Through several 1-1/2-inch connections off a 2-1/2-inch line; metered rates. (Potable city water supply)		
Water Supply and Waste Treatment Facilities	(Available to Vessels)		
Railway Connections	Two surface tracks on apron, total length 1,400 feet; 2 platform-level tracks along rear of transit shed, total length 1,080 feet; connect with Alameda Belt Line.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110/220 volts, single- and three-phase, 60-cycle, for own use; A.C., 480 volts, three-phase, 60 cycle for crane.		
Fire Protection (Other than City)	Waterlines, hydrants, hose, chemical carts, hand extinguishers, one 100,000-gal. water tower, A.D.T. service, watchmen, and sprinklers in shed.		
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
12	Pennzoil Company (Used jointly by Encinal Terminals Wharf, berths 1,2,3,4 and 5).	11	40,450
Total		11	40,450

PIERS, WHARVES, AND DOCKS

Reference Number on Map	13		
Name	Atchison, Topeka and Santa Fe Car Float Slip.		
Location on Waterfront	Below Encinal Basin, near foot of Sherman St. extended.		
Owned by	Atchison, Topeka and Santa Fe Co.		
Operated by	Not operated.		
Purpose for which Used	Not used.		
Type of Construction	Timber ferry rack with adjustable transfer bridge.		
Description			
Dimensions	One car-ferry slip.		
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities Available to Vessels)	None.		
Railway Connections	One surface track extends to three surface tracks on transfer bridge from three yard tracks in rear; connects with Alameda Belt Line.		
Highway Connections	U.S. 40, 20, 30 and State 17.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hydrants, hose, and watchmen.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	14		
Name	Calpack Properties, Inc.		
Location on Waterfront	Approximately 2,400 feet above foot of Webster Street.		
Owned by	Calpack Properties, Inc.		
Operated by	Not operated.		
Purpose for which Used	Not used.		
Type of Construction	Timber pile, timber-decked wharf.		
Description	North side (feet)	East side (feet)	
Dimensions	500	270	
Depth Alongside at MLLW	16	16	
Usable Berthing Space	500	100	
Width of Apron	open	open and 20	
Height of Deck above MLLW	13.5		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	Through one 2 1/2-inch line. (potable city water supply)		
(Available to Vessels)			
Railway Connections	None.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, three-phase, 60-cycle.		
Fire Protection (Other than City)	Hydrants and hose.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	15		
Name	Calpack Properties Inc., Wharf		
Location on Waterfront	Approximately 2,400 feet above foot of Webster Street.		
Owned by	Calpack Properties Inc.,		
Operated by	Not operated.		
Purpose for which Used	Not used.		
Type of Construction	Bulkhead, solid fill, with timber pile, timber decked wharf extension (in line with face) from upper side.		
Description	Face (feet)	East side (feet)	Rear of face (feet)
Dimensions	1,078	60	595
Depth Alongside at MLLW	-	-	-
Usable Berthing Space	1,078	60	595
Width of Apron	Open		
Height of Deck above MLLW	13.5		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 2 1/2-inch line. (Potable city water supply)		
Railway Connections	None		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	A.C., 440 volts, three-phase, 60-cycle.		
Fire Protection (Other than City)	Hydrants and hose.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	16		
Name	Calpack Properties, Inc., Pier.		
Location on Waterfront	Approximately 900-feet above foot of Webster Street.		
Owned by	Calpack Properties, Inc.		
Operated by	Not operated.		
Purpose for which Used	Not used.		
Type of Construction	Timber pile, timber-decked pier.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	50	232	370
Depth Alongside at MLLW	15	15-0	15-0
Usable Berthing Space	50	-	320
Width of Apron	Open		
Height of Deck above MLLW	13.5		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through three 1 1/2-inch connections off a 2-inch line; for own use. (Potable city water supply)		
Railway Connections	None		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Hydrants, hose, 6-inch pumper connection for salt water, and watchmen.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	17		
Name	Pacific Cement & Aggregates, Inc. Wharf. (former designation)		
Location on Waterfront	Approximately 500 feet above foot of Webster Street.		
Owned by	Mr. A.V. Barnhill - Alameda, California.		
Operated by	Not operated.		
Purpose for which Used	Not used.		
Type of Construction	Timber pile, timber-decked, offshore wharf with 167-by 22-foot approach; face of wharf fronted by 6 timber, mooring dolphins; 8-foot-wide timber walkway extends from lower and upper sides of wharf (in line with face) along rear of mooring dolphins.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	100	36	36
Depth Alongside at MLLW	18	-	-
Usable Berthing Space	400 w/dolphin	-	-
Width of Apron	Open		
Height of Deck above MLLW	14, wharf; 14 to 20, walkways.		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	None		
(Available to Vessels)			
Railway Connections	Two surface tracks extend along west side of silos in rear (formerly used for storage of bulk cement); connect with the Southern Pacific Company.		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	18		
Name	Tidewater Oil (Phillips Petroleum) Company Wharf (former designation)		
Location on Waterfront	Just below foot of Webster Street		
Owned by	Mariner Square Associates		
Operated by	Mariner Square Associates		
Purpose for which Used	To be used for a 48 berth marina and restaurant		
Type of Construction	Timber pile, timber-decked, offshore wharf with 76 by 12 foot timber approach to upper end; approach extends from a prestressed concrete sheet pile bulkhead with concrete paved solid fill; 2 timber mooring dolphins in line with face on lower side		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	110	20	20
Depth Alongside at MLLW	22		
Usable Berthing Space	240 w/dolphins (NOTE: dolphins to be removed)		
Width of Apron	Open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	All existing pipelines being removed.		
Water Supply and Waste Treatment Facilities	Potable city water supply		
Railway Connections	Southern Pacific Railway Company.		
Highway Connections	U.S. 40,50,80 and State 17.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Two fire hydrants.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	19		
Name	Todd Alameda Pier No. 4		
Location on Waterfront	Approximately 2-1/2 miles above entrance to Inner Harbor		
Owned by	Todd Shipyards Corporation		
Operated by	Todd Shipyards Corporation - San Francisco Division		
Purpose for which Used	Moor floating drydock - West side Mooring vessels for repair & Conversion - East side		
Type of Construction	Timber pile - Timber decked pier; part asphalt-surfaced. Constructed approx. 1942.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	75	564	564
Depth Alongside at MLLW	41	41	41
Usable Berthing Space	-	-	564
Width of Apron	Open		
Height of Deck above MLLW	11		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two electric, traveling, revolving, full portal gantry cranes with 45-ton capacity at 30-foot radius. (serves piers 2,3 and 4)		
Pipelines	Air, steam, gas, oxygen and salt water		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Water supply from 8" main (Potable city water supply)		
Railway Connections	None		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	Outlets on pier - A.C. 110 volts, single phase, 60-cycle, A.C. 220/440 volts 3 phase, 60 cycle. Portable D.C. generators.		
Fire Protection (Other than City)	Plant apparatus, hydrants, fire brigade, hose reels and extinguishers		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	20		
Name	Todd Alameda Pier No. 3		
Location on Waterfront	Approximately 2.4 miles above entrance to Inner Harbor		
Owned by	Todd Shipyards Corporation		
Operated by	Todd Shipyards Corporation - San Francisco Division		
Purpose for which Used	Mooring vessels - Limited use		
Type of Construction	Timber piles, concrete slab deck. Constructed approx. 1942.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	40	512'	512'
Depth Alongside at MLLW	20	26'	26'
Usable Berthing Space	-	512'	512'
Width of Apron	Open		
Height of Deck above MLLW	11		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two electric, traveling, revolving full portal gantry cranes with 45-ton capacity at 30-foot radius. (serves piers 2,3 and 4 and wharf 5)		
Pipelines	Air, steam, gas, oxygen and salt water		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Water supply from 8" main (Potable city water supply)		
Railway Connections	None		
Highway Connections	U.S. 40, 50, 80, and State 17.		
Electric Current (Available to Vessels)	Outlets on pier - AC 110 volts single phase 60 cycle AC 220/440 volts 3 phase 60 cycle		
Fire Protection (Other than City)	Plant apparatus, hydrants, fire brigade, hose reels and extinguishers		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	21		
Name	Todd Alameda Pier No. 2		
Location on Waterfront	Approximately 2.4 miles above entrance to Inner Harbor		
Owned by	Todd Shipyards Corporation		
Operated by	Todd Shipyards Corporation - San Francisco Division		
Purpose for which Used	Mooring vessels for outfitting, repair and conversion.		
Type of Construction	Structure is ballast type pier supported by square prestressed concrete piles. Deck is asphalt surfaced. Constructed approx. 1942.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	44	560	560
Depth Alongside at MLLW	26	26	26
Usable Berthing Space		560	560
Width of Apron	Open		
Height of Deck above MLLW	13'		
Load Capacity per Sq. Ft. (Lbs.)	600		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two electric. travelling, revolving full portal gantry cranes with 45-ton capacity at 30-foot radius. (serves piers 2,3, and 4 and wharf 5)		
Pipelines	Service lines installed under deck air-water-steam-oxygen-acetylene-natural gas - connected to manifolds		
Water Supply and Waste Treatment Facilities	Water supply from 8" main (potable city water supply) Sewage connection to county treatment plant		
Available to Vessels)			
Railway Connections	None		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	Outlets on pier- AC 110 volts single phase, 60 cycle AC 220/440 volts 3 phase, 60 cycle		
Fire Protection (Other than City)	Plant apparatus, hydrants and hose reels, plant fire brigade, fire extinguishers		
Remarks	Todd Alameda Pier No. 1 - demolished in 1968. (Formerly located approximately 2.3 miles above entrance to inner harbor.)		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	22		
Name	Todd Alameda Marginal Wharf #5.		
Location on Waterfront	South side Oakland Inner Harbor about 2 miles above entrance.		
Owned by	Todd Shipyards Corporation.		
Operated by	Todd Shipyards Corporation - San Francisco Division		
Purpose for which Used	Mooring ships for repair and conversion, mooring floating drydock		
Type of Construction	800' timber and asphalt construction 682' ballast type pier supported by square prestressed concrete piles. Deck is asphalt surfaced. Constructed approx. 1942.		
Description	Face (feet)		
Dimensions	40 by 1,482		
Depth Alongside at MLLW	32		
Usable Berthing Space	650		
Width of Apron	2-25' 1-34'		
Height of Deck above MLLW	13'		
Load Capacity per Sq. Ft. (Lbs.)	600		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction	None		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two electric traveling revolving full portal gantry cranes - 45-ton capacity at 30-foot radius. (serves piers 2,3 and 4 and wharf 5)		
Pipelines	Salt water, air, steam, gas and oxygen.		
Water Supply and Waste Treatment Facilities	Water supplied by 8" main (potable city water supply) Sewage connection to county treatment plant		
Available to Vessels			
Railway Connections	One 150' surface track to East section of wharf, and one 130' surface track on diagonal approach serves center section; tracks join yard trackage, connects with Alameda Belt Line. / wh 64		
Highway Connections	U.S. 40, 50, 80 and State 17.		
Electric Current (Available to Vessels)	Outlets on pier - AC 110 volts, single phase AC 220/440 volts 3 phase, 60 cycle.		
Fire Protection (Other than City)	Plant apparatus, hydrants and hose reels, plant fire brigade, fire extinguishers.		
Remarks			



LEGEND

-  RESIDENTIAL
-  COMMERCIAL
-  INDUSTRIAL

SAN FRANCISCO BAY AREA, IN-DEPTH STUDY
 PORT FACILITIES INVENTORY
PORT OF ALAMEDA
 POTENTIAL PORT DEVELOPMENT

U.S. ARMY ENGINEER DIST., SAN FRANCISCO, C OF E
 DRAWN: FILE NO.
 TRACED: TO ACCOMPANY REPORT 1-1-185
 CHECKED: DATED MAR 1973

13. PORT OF RICHMOND

a. Existing port facilities. Richmond is located on the eastern side of San Francisco Bay, approximately 9 miles northeast of the Golden Gate Bridge. The Port Area includes an Outer Harbor approximately 5 miles in length between Point San Pablo and Point Richmond, an Inner Harbor extending from Point Richmond to and around Point Potrero, and thence, to the inner end of the Santa Fe Channel at Cutting Boulevard, Richmond, a distance of 3.75 miles. The Outer Harbor faces natural, deepwater in San Francisco Bay; the Inner Harbor has been dredged from deepwater in San Francisco Bay through shallow flats and marshlands. The shore and channel between Point Richmond and Point Potrero are protected by a 10,000-foot training wall extending in a westerly direction from its anchorage on Brooks Island opposite the Santa Fe Channel.

(1) Forty-two piers, wharves and docks are described in this report for the Port of Richmond. Seven are located in the Outer Harbor; four are on the north side of Point San Pablo facing San Pablo Bay; five are at Point Richmond; and the other facilities are in the Inner Harbor along the side of the Inner Harbor Channel, the Ford Channel, the Inner Harbor Basin, the Santa Fe Channel, and the Parr and Lauritzen Canals. Each of these forty-two facilities are described in detail under a reference number in the table "Piers, Wharves and Docks" on the following pages. The reference number assigned to each facility is used to designate its location on the accompanying map, Plate 24.

(2) The commodities handled at the Port of Richmond consist primarily of petroleum, dry bulk and other liquid bulk cargoes. Five major oil companies have wharves, pipelines, and storage facilities for the receipt and shipment of petroleum, petroleum products, and petroleum chemicals. Approximately two-thirds of Richmond's total tonnage is shipped through the Standard Oil Company's Richmond Long Wharf located in the Outer Harbor. Parr-Richmond, the private company operating four terminals, also operates the belt-line railroad which interconnects Southern Pacific Lines with Santa Fe Lines. The former U.S. Reserve Shipyard No. 3, now owned by the city of Richmond, has been converted into a ship repair facility, a scrap-metal processing plant, an iron-and-steel company and an automobile-import/export facility. A large industrial complex is located on this site.

b. Planned and potential port facilities. The planned and potential port facilities at the Port of Richmond are as follows:

(1) Planned Facilities. Standard Oil Company of California has plans for the modernization of the Richmond Refinery Long Wharf. The total project consists of the construction of mooring and breasting dolphins, dredging and the construction of an additional pipeway from the T-head of the wharf to shore. The modernized wharf will include new northerly and southerly berths, each to have a length of 1,050 feet, which will be used for unloading crude oil from 100,000 DWT class tankers. The two interior berths, each to have length of 790 feet, will service 35,000 DWT class tankers for unloading of crude oil and loading of refined petroleum products.



Richmond Inner Harbor. Plans are being made to redevelop Richmond's waterfront. Initial development is envisioned for the waterfront area shown on the right side of this photograph.



Richmond Outer Harbor, Standard Oil Long Wharf. Most of Richmond's waterborne commerce consists of bulk products, principally petroleum.

(2) Potential facilities. The city of Richmond is now studying its port facilities with a view toward modernization and further development. The port has no definite plan at present. However, the most likely area for initial potential development might be centered around the University of California Wharf in the Parr-Richmond Terminal No. 3. Facilities constructed at this location would have about 100 acres of backup land available. A later phase of potential development could include the Inner Harbor Basin area and that portion of the waterfront located to the east of this area. Another area that might be considered for potential development is at Point Potrero. Bulk petroleum facilities at Point Richmond may be consolidated and modernized. These areas for potential facilities are shown on Plate 25. The Parr-Richmond Terminal No. 1 is scheduled to be modified to be used exclusively for liquid cargoes. Additional tanks will be built to accommodate this modification.

c. Railroad service.

(1) The port area of Richmond is served by two line-haul railroads: The Atchison, Topeka and Santa Fe Railway and the Southern Pacific Company (Southern Pacific Lines). The Parr Terminal Railroad serves the Parr-Richmond Terminal Company - Bulk Cargo Terminal and connects with the two line-haul railroads. The Atchison, Topeka and Santa Fe Railway and the Southern Pacific Company acquired the physical facilities of the former Richmond Belt Railway, which they jointly operate along the entire shoreline of the peninsula, extending northwestward from the city to Point San Pablo. The Northwestern Pacific Railroad also serves the San Francisco Bay Area by interchanging with the Southern Pacific Company at Schellville, California.

(2) The Atchison, Topeka and Santa Fe Railway operates car-ferry service between Richmond, Oakland, Alameda, and San Francisco, California.

(3) The following is a tabulation of rail yards located within the port area, and shown on the accompanying Plate 24.

Railroad and Yard	Total Storage Capacity (cars)	Normal Operating Capacity (cars)
-------------------	--	---

Atchison, Topeka and Santa Fe Railway

Richmond Yard	1,645 (1)	-
Ohio Street Yard	210	70
Classification Yard	500	-

Southern Pacific Company

Richmond Transfer Yard	378 (2)	326 (2)
Richmond Seaver Ave. Yard	378 (2)	326 (2)
Classification Yard	124 (2)	75 (2)

- (1) 50-foot cars.
(2) 49-foot cars.

d. Existing and planned channels.

(1) The existing project, shown on Plate 26, provides for a channel 35 feet deep and 600 feet wide adjacent to Southampton Shoal from deep water in San Francisco Bay to the Outer Harbor; for an Inner Harbor entrance 35 feet deep and 600 feet wide from deep water to Point Richmond with a turning basin at that point; thence, a channel 35 feet deep and 500 feet wide flaring to about 600 feet at Point Potrero with a turn at that point, 1,150 feet wide and 35 feet deep except for a depth of 30 feet at the southerly apex of the bend; thence, 35 feet deep and 850 feet wide to the entrance to Santa Fe Channel; thence, 35 feet deep and 200 feet wide in Santa Fe Channel for about 2,000 feet, and maintenance to a depth of 30 feet of the remainder of Santa Fe Channel and basin; for a rubble-mound training wall 10,000 feet long extending westerly from Brooks Island; for approach areas 32 feet deep to within 75 feet of the pierhead line in the Outer Harbor at Point San Pablo and Point Orient; for a channel 20 feet deep, 150 feet wide, and about 2,000 feet long from deep water in San Pablo Bay easterly along the north side of Point San Pablo; for a maneuvering area at Richmond Long Wharf 45 feet deep; and for a West Richmond Channel 45 feet deep, 600 feet wide, and about 2.5 miles long through the west navigation opening of the Richmond-San Rafael Bridge.

(2) All of the authorized project except West Richmond Channel and the enlarged 45-foot deep maneuvering area at Richmond Long Wharf was completed in 1957 and is under maintenance. Rehabilitation of the training wall was accomplished in 1967. Channel improvements to be completed consist of dredging West Richmond Channel 45 feet deep and enlarging and deepening from 35 to 45 feet the maneuvering area at Richmond Long Wharf (as part of the authorized San Francisco Bay to Stockton Navigation Channels).

(3) A general investigation study of Richmond Harbor was authorized on 10 July 1968. This study may result in recommendations for modifying the existing project to better serve deep-draft shipping needs.

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PIERS, WHARVES, AND DOCKS

Reference Number on Map	1		
Name	Inner Harbor Basin Barge Loading Slip.		
Location on Waterfront	East side of entrance to basin.		
Owned by	Atchison, Topeka, and Santa Fe Railway Company.		
Operated by	Peter Kiewit & Sons' Company		
Purpose for which Used	Shipment of concrete structural units by barge.		
Type of Construction	Slip formed by 2 parallel 160- by 3-foot timber pile, timber-decked piers extending from timber bulkhead with solid fill; a 125-foot row of timber mooring dolphins extends from outer end of each pier.		
Description	Face (feet)		
Dimensions	160 by 66		
Depth Alongside at MLLW	16		
Usable Berthing Space	160 (See Remarks)		
Width of Apron	Open.		
Height of Deck above MLLW	11.0		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Three diesel-powered, elevated, traveling, bridge cranes, each equipped with a 40-ton electric hoist with 2 hooks. Cranes straddle slip and travel from piers to yard area in rear; used for loading barge in slip with precast, concrete piling, slabs, and other types of concrete structural units, manufactured in yard at rear.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	None.		
(Available to Vessels)			
Railway Connections	Atchison, Topeka and Santa Fe Railways; several surface tracks serve yard and plant at rear.		
Highway Connections	Via driveway (access), asphalt, 25 feet wide, from corner of Pierson and S. 27th Street.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Waterlines with hose, and watchmen.		
Remarks	Slip designed and constructed to berth one barge for loading. Additional berthing available for barges along the two rows of mooring dolphins which are approximately 100 feet apart.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	2		
Name	Murphy Pacific Mooring Dock		
Location on Waterfront	South side of Inner Harbor Basin		
Owned by	Atchison, Topeka and Santa Fe Railway Company		
Operated by	Murphy Pacific Company		
Purpose for which Used	Mooring contractor's floating equipment; handling construction materials and equipment.		
Type of Construction	Timber pile, timber-decked wharf with row of mooring dolphins and catwalk at each side in line with face.		
Description	Face (feet)	West Side (feet)	East Side (feet)
Dimensions	108	45	45
Depth Alongside at MLLW	13		
Usable Berthing Space	320 w/dolph.		
Width of Apron	Open		
Height of Deck above MLLW	9.6		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines	None		
Water Supply and Waste Treatment Facilities	Through various line sizes (water supply)		
(Available to Vessels)			
Railway Connections	Atchison, Topeka and Santa Fe Railway; 3 surface tracks along rear of wharf join additional tracks in yard.		
Highway Connections	Via driveway (access), asphalt, 25 feet wide, from corner of Pierson and S. 27th Street.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Waterlines with hose, hand extinguishers, and watchmen		
Remarks	A marine railway is located approximately 200 feet east of wharf and is used for repairing company-owned, floating equipment; railway has handled barges up to 80 by 39 feet in size, and is served by a 55-ton, diesel-operated, steel, stiff-leg derrick with 120-foot boom.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	3						
Name	Murphy Pacific Marine Salvage						
Location on Waterfront	North side of inner harbor basin						
Owned by	Atchison, Topeka and Santa Fe Railway Company						
Operated by	Murphy Pacific Marine Salvage						
Purpose for which Used	Mooring contractor's floating equipment; handling construction materials and equipment.						
Type of Construction	Timber pile, timber-decked wharf; timber pile mooring dolphins in line with face.						
Description							
	<table border="1"> <thead> <tr> <th>Face (feet)</th> <th>South Side (feet)</th> <th>North Side (feet)</th> </tr> </thead> <tbody> <tr> <td>50</td> <td>40</td> <td>40</td> </tr> </tbody> </table>	Face (feet)	South Side (feet)	North Side (feet)	50	40	40
Face (feet)	South Side (feet)	North Side (feet)					
50	40	40					
Dimensions	20-10						
Depth Alongside at MLLW	100 w/dolphin. (See Remarks)						
Usable Berthing Space	open						
Width of Apron	8-10						
Height of Deck above MLLW							
Load Capacity per Sq. Ft. (Lbs.)							
Lighted or Unlighted	Lighted						
Storage Space							
Covered (Transit Sheds)							
Cargo Type (Bulk, Container, Etc.)							
Number and Type of Construction							
Length and Width (Feet)	30' x 100'						
Height Inside (Feet)	10'						
Floor Area for Cargo (Sq. Ft.)	3000						
Load Capacity per Sq. Ft. (Lbs.)	150						
Cargo Doors	3						
Open							
Cargo Type							
Area (Acres)	Approx. 2						
Surfacing Type	Gravel						
Tank (Other than Petroleum)							
Mechanical Handling Facilities	Various yard and floating cranes for own use.						
Pipelines	None						
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through various size lines (water supply)						
Railway Connections							
Highway Connections	Via paved access drives from 14th Street (approach), asphalt, 45 feet wide.						
Electric Current (Available to Vessels)	A.C., 220 volts, 3-phase, 60-cycle.						
Fire Protection (Other than City)	Waterlines with hose, and watchmen.						
Remarks	Additional mooring available at dolphins located nearby along the shore and offshore. Wharf is used primarily as crane platform in loading and unloading own equipment.						

PIERS, WHARVES, AND DOCKS

Reference Number on Map	4		
Name	University of California Wharf		
Location on Waterfront	Ford Channel, at east side of foot of 10th Street		
Owned by	The Regents of the University of California		
Operated by	Various lessees and operators.		
Purpose for which Used	Mooring vessels and barges		
Type of Construction	Concrete pile, asphalt-surfaced, timber-decked wharf; curved timber pile, railroad trestle connects east side with shore; timber mooring dolphins in line with face of wharf. Constructed in 1931.		
Description	Face (feet)	West side (feet)	East Side (feet)
Dimensions	503	115	Rail Trestle
Depth Alongside at MLLW	20		
Usable Berthing Space	800 w/dolphin		
Width of Apron	40		
Height of Deck above MLLW	16		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space	None		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)	Total U.C. Property-47 acres		
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities Available to Vessels)	None		
Railway Connections	Two surface tracks extend along full length of wharf apron and join with 2 approach tracks on trestle; one track along east side of building in rear and one surface track on shore in rear of trestle; connect with A.T.&S.F. and S.P. Company.		
Highway Connections	Via foot of 10th Street (access and approach), asphalt,		
Electric Current (Available to Vessels)	45 feet wide, to west end of wharf. None		
Fire Protection (Other than City)	power plant with pumps, hydrants, and watchmen.		
Remarks	Buildings in rear formerly used as automobile-assembly plant; building at rear of wharf has eighteen 16-by 12-foot doors along wharf; large connecting building at rear of building along wharf is used as a warehouse by the University of California printing plant.		

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	5		
Name	River Lines Co.		
Location on Waterfront	Foot of South 10th Street		
Owned by	University of California		
Operated by	River Lines Co.		
Purpose for which Used	Mooring Company owned tugs and barges.		
Type of Construction	Timber pile, timber-decked wharf, with 50-by 40-foot approach; row of dolphins and catwalk.		
Description	South Side (feet)	West Side (feet)	
Dimensions	400	350'	
Depth Alongside at MLLW	10-15		
Usable Berthing Space	400		
Width of Apron	20		
Height of Deck above MLLW	12'		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One, concrete and galvanized sheet.		
Length and Width (Feet)	60 x 40		
Height Inside (Feet)	18		
Floor Area for Cargo (Sq. Ft.)	none		
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors	2		
Open			
Cargo Type			
Area (Acres)	1/4 acre		
Surfacing Type	asphalt and concrete		
Tank (Other than Petroleum)	none		
Mechanical Handling Facilities	one fork-lift, one wayne crane		
Pipelines	none		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through small lines for own use.		
Railway Connections	None		
Highway Connections	Via S. 10th Street, asphalt, 45 feet wide.		
Electric Current (Available to Vessels)	AC-110, 120 Volts		
Fire Protection (Other than City)	Waterline, hose, hand extinguishers		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	6	
Name	Parr-Richmond Terminal No. 3, General Cargo Wharf	
Location on Waterfront	East side of Inner Harbor Channel, foot of Hall Avenue extended	
Owned by	City of Richmond and Parr-Richmond Terminal Company	
Operated by	Parr-Richmond Terminal Company	
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade; dry bulk commodities including ore concentrates, bulk liquids, incl. petrochem., chemicals and vegetable oils.	
Type of Construction	Concrete pile, with asphalt-paved, concrete deck; row of timber mooring dolphins on south side in line with face, with catwalk extending along rear; free standing, continuous timber fender system with rubber blocks to wharf face. Constructed in 1929.	
Description	Face (feet)	South side(feet)
Dimensions	900	75
Depth Alongside at MLLW	35-32	
Usable Berthing Space	960 w/dolph. (see remarks)	
Width of Apron	31	
Height of Deck above MLLW	13.2	
Load Capacity per Sq. Ft. (Lbs.)	500	
Lighted or Unlighted	Lighted	
Storage Space		
Covered (Transit Sheds)	General Cargo	
Cargo Type (Bulk, Container, Etc.)		
Number and Type of Construction	One; concrete with steel roof supports and asphalt-surfaced	
Length and Width (Feet)	802 by 150	concrete floor.
Height Inside (Feet)	15	
Floor Area for Cargo (Sq. Ft.)	117,416	
Load Capacity per Sq.Ft. (Lbs.)	500	
Cargo Doors	Shipside; 18, 15'wide; rear:18, 15'wide; each end: one,	18'x16' truck entrance
Open		
Cargo Type	General	
Area (Acres)	10	
Surfacing Type	Asphalt	
Tank (Other than Petroleum)	Ten 200,000 gallon vegetable oil tanks.	
Mechanical Handling Facilities	Forklift trucks, tractors, movable receiving hoppers, skip and clamshell buckets, and other types of cargo-handling equipment are available at all Parr-Richmond facilities. Two movable bridges for forklift trucks and tractors cross rail tracks and connect rear of transit shed with storage	
Pipelines	Pacific Veg. Oil Corp: one 8-and one 6-inch warehouse ./ pipelines extend from wharf to ten 200,000-gallon tanks at nearby vegetable oil plant.	
Water Supply and Waste Treatment Facilities (available to vessels)	Water supply through 2-inch connections.	
Railway Connections	Two surfaced tracks on wharf apron; 2 depressed tracks along rear of transit shed also serve storage warehouse; tracks connect with A.T. & S.F. , and S.F. Lines	
Highway Connections	Via S. 10th St. (approach and access), asphalt, 45 feet wide, from Cutting Boulevard (arterial), asphalt, 60 feet wide.	
Electric Current (Available to Vessels)	None.	
Fire Protection (Other than City)	Sprinkler system inside transit shed and under canopy, chemical carts, hand extinguishers, nose, and watchmen.	
Remarks	Face of wharf is in line and contiguous with face of adjacent wharf, providing 1340 feet of continuous berthing.	

PIERS, WHARVES, AND DOCKS

Reference Number on Map	7		
Name	Parr-Richmond Terminal No. 3 Liquid Cargo Wharf.		
Location on Waterfront	East side of Inner Harbor Channel, north of foot of Hall Avenue extended.		
Owned by	City of Richmond and Parr-Richmond Terminal Company.		
Operated by	Parr-Richmond Terminal Company		
Purpose for which Used	Receipt and shipment of vegetable oils, chemicals, and petro-chemicals.		
Type of Construction	Timber pile, timber-decked wharf with several approaches from shore. Constructed in 1929.		
Description	Face (feet)		
Dimensions	380		
Depth Alongside at MLLW	34-32		
Usable Berthing Space	380 (See Remarks)		
Width of Apron	Open		
Height of Deck above MLLW	13.2		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	55 chemical & petroleum tanks, total 100,000 barrels.		
Mechanical Handling Facilities	Forklift trucks, tractors, movable receiving hoppers, ship and clamshell buckets, and other types of cargo-handling equipment are available at all Parr-Richmond facilities.		
Pipelines	Edgewater Terminal Co.: two 6- and twenty 4-inch pipelines extend from wharf to approximately 55 tanks with total capacity for about 100,000 barrels of chemicals and petrochemicals.		
Water Supply and Waste Treatment Facilities	Available to Vessels		
Railway Connections	Tracks in rear serve storage tanks and plants operated by Pacific Vegetable Oil Corp. and Edgewater Terminal Co. Continue as lead tracks to tracks described under Reference No. 5.		
Highway Connections	Via S. 10th Street (approach and access), asphalt, 45 feet wide, from Cutting Boulevard (arterial), asphalt, 60 feet wide.		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)	Hydrants, hose, hand extinguishers, and watchmen.		
Remarks	Face of wharf is in line and contiguous with face of adjacent wharf, providing 1,340 feet of continuous berthing.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	8		
Name	Parr-Richmond Terminal No. 2		
Location on Waterfront	East side of Inner Harbor Channel, at foot of 8th Street.		
Owned by	City of Richmond		
Operated by	Parr-Richmond Terminal Company.		
Purpose for which Used	Mooring small vessels.		
Type of Construction	Timber pile, timber-decked, off-shore wharf; railroad trestle approach from shore at inner end of wharf.		
Description	Face (feet)		
Dimensions	583.5		
Depth Alongside at MLLW	25-18		
Usable Berthing Space	583.5 (See Remarks)		
Width of Apron	0 and 15		
Height of Deck above MLLW	13.2		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	None		
Highway Connections	Via 8th Street, asphalt, 20 feet wide, from Wright Avenue.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Waterline and watchmen.		
Remarks	Face of wharf is in line and contiguous with faces of adjacent wharves.		

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	9		
Name	Time Oil Company Wharf.		
Location on Waterfront	North side of junction of Inner Harbor Channel and Santa Fe Channel.		
Owned by	Time Oil Company		
Operated by	Time Oil Company		
Purpose for which Used	Receipt and shipment of petroleum products.		
Type of Construction	Wooden pile and decking with catwalk, four resting dolphins 60 feet apart constitute make-up on approximate 250-foot facing. Constructed in 1966.		
Description	Outer side of barge (feet)		
Dimensions			
Depth Alongside at MLLW	35		
Usable Berthing Space	-		
Width of Apron	Open.		
Height of Deck above MLLW	6		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Unlighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	Three 10-inch pipelines extends to 25 steel storage tanks in rear; total capacity 618,000 barrels.		
Water Supply and Waste Treatment Facilities	None.		
(Available to Vessels)			
Railway Connections	None.		
Highway Connections	Via Wright Avenue (access), asphalt, 15 feet wide, from foot of 4th Street (approach).		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hand extinguishers.		
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
9	Time Oil Company Note: Pipe lines connect with Standard Oil Company refinery with tankage as shown under Ref. 33.	25	618,000
Total		25	618,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	10		
Name	Parr-Richmond Bulk Commodity Wharf.		
Location on Waterfront	North side of Santa Fe Channel and east side of Lauritzen Canal.		
Owned by	Parr-Richmond Terminal Company.		
Operated by	Parr-Richmond Terminal Company.		
Purpose for which Used	Receipt and shipment of various dry bulk commodities, and petroleum products and chemicals in foreign and domestic trade. (See Remarks)		
Type of Construction	Timber pile, timber-decked wharf. Constructed in 1942, extended 1966.		
Description	Channel side (feet)	Canal side (feet)	
Dimensions	450	1,835	
Depth Alongside at MLLW	32	32-14	
Usable Berthing Space	450	1,835	
Width of Apron	Open.	40 and open.	
Height of Deck above MLLW	13.0		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Metal Covered		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)	50,000		
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Bulk materials		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	On wharf: two 50-ton, electric, traveling, full-portal, gantry cranes, each with 100-foot boom; and two 45-ton, electric, traveling, full-portal, gantry cranes, each with 118-foot boom. Yard area in rear served by two 50-ton, electric, traveling, full-portal, gantry cranes, with 115- and 125-foot booms; one 10-ton, diesel, crawler crane with 40-foot boom; and one 5-ton, diesel, crawler crane with 50-foot boom. All cranes are		
Pipelines	equipped to use electric magnets, slings, and buckets. Time Oil Company: three 10- and two 8-inch pipelines extend from wharf to storage tanks.		
Water Supply and Waste Treatment Facilities	Through one 4-inch line (water supply)		
(Available to Vessels)			
Railway Connections	Parr Terminal Railroad: one surface track on inner section of open wharf continuing as 2 tracks on outer section; total length 3,500 feet; connects with Atchison, Topeka and Santa Fe Railway and Southern Pacific Company.		
Highway Connections	Via 4th Street and Wright Avenue (approach and access), asphalt, 50 feet wide.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Sprinkler system under wharf deck, A.D.T. service, hydrants, hose reels, hand extinguishers and watchmen.		
Remarks	Open area in rear of wharf used for storage of such bulk commodities as iron ore, scrap metal, pig iron, magnesite, chrome ore, coal, and bauxite.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
10	Time Oil Company	25	618,000
Total		25	618,000

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	11		
Name	Rhodes & Jamieson Wharf.		
Location on Waterfront	Near inner end of west side of Lauritzen Canal.		
Owned by	Rhodes & Jamieson, Ltd.		
Operated by	No longer in use.		
Purpose for which Used	Not used.		
Type of Construction	Timber pile, timber-decked wharf. Constructed in 1927.		
Description	Face (feet)		
Dimensions	280		
Depth Alongside at MLLW	10		
Usable Berthing Space	280		
Width of Apron	12		
Height of Deck above MLLW	8		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None.		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Receiving hopper with electric, vertical, endless, bucket belt elevator serving an electric, overhead belt conveyor system extending to 4 elevators, cement, storage tanks.		
Pipelines			
Water Supply and Waste Treatment Facilities	Through small line (water supply)		
(Available to Vessels)			
Railway Connections	One surface track in rear of wharf, capacity 9 cars, connects with Atchison, Topeka and Santa Fe Railway and Southern Pacific Company.		
Highway Connections	via Cutting Boulevard (arterial and approach), asphalt, 60 feet wide.		
Electric Current (Available to Vessels)	A.C., 440 volts, 3-phase, 60-cycle, for cargo unloading machinery on barge.		
Fire Protection (Other than City)	Waterline and hose.		
Remarks	One-story building occupies part of wharf.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	12		
Name	Willamette-Western Corp.		
Location on Waterfront	West side of Lauritzen Canal.		
Owned by	Richmond Navigation & Improvement Company.		
Operated by	Willamette-Western Corp.		
Purpose for which Used	Mooring company-owned tugs and barges.		
Type of Construction	Timber pile, timber-decked wharf, and line of dolphins fronting bank of canal.		
Description	Face (feet)		
Dimensions	90+12+50		
Depth Alongside at MLLW	10-5		
Usable Berthing Space	550 w/dolph.		
Width of Apron	Open.		
Height of Deck above MLLW	8		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 3/4-inch line. (water supply)		
Railway Connections	One surface track in rear connects with Atchison, Topeka and Santa Fe Railway and Southern Pacific Company.		
Highway Connections	Via Cutting Boulevard (arterial and approach) asphalt 60 feet wide.		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)	Waterline and hand extinguishers.		
Remarks	Facilities available at wharf for diesel fueling of own tugs.		

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	13		
Name	Texaco Wharf.		
Location on Waterfront	Northeast side of Santa Fe Channel, at entrance to Lauritzen Canal.		
Owned by	Texaco, Inc.		
Operated by	Texaco, Inc.		
Purpose for which Used	Receipt and shipment of petroleum products.		
Type of Construction	Timber pile, timber-decked, marginal, offshore wharf with 35- and 15-foot and 75- by 15-foot slanting vehicle approaches to ends; catwalk approach to center; dolphin with catwalk at east end. Constructed in 1923.		
Description	Face (feet)		
Dimensions	600		
Depth Alongside at MLLW	35		
Usable Berthing Space	635 w/dolph.		
Width of Apron	Open.		
Height of Deck above MLLW	8, approx.		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Three electric, hosehandling cranes.		
Pipelines	One 12-, two 10-, three 8-, and nine 6-inch pipelines extend from wharf to 41 steel storage tanks in rear, total capacity 601,200 barrels.		
Water Supply and Waste Treatment Facilities	Through one 4-inch line. (water supply)		
(Available to Vessels)			
Railway Connections	Two surface tracks serve tank car loading racks in rear; connect with Atchison, Topeka and Santa Fe Railway and Southern Pacific Company.		
Highway Connections	Via plant drive, asphalt, 15 feet wide from Cutting Boulevard (arterial), asphalt, 60 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hydrants, 2 reels of floating boom for oil spills on water, under deck fire curtains, electric fire pump with 8-inch salt water line.		
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user	TANKS	
		Number	Capacity (barrels)
13	Texaco, Inc.	41	601,200
Total		41	601,200

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	14		
Name	Pacific Boat Works Mooring.		
Location on Waterfront	Northeast side of Santa Fe Channel at entrance to Richmond Yacht Harbor.		
Owned by	City of Richmond and Pacific Boat Works		
Operated by	Pacific Boat Works.		
Purpose for which Used	Mooring commercial fishing vessels.		
Type of Construction	Bulkhead with solid fill; fronted by mooring floats.		
Description	Face (feet)		
Dimensions	190+35		
Depth Alongside at MLLW	20-10		
Usable Berthing Space	190+35		
Width of Apron	Open.		
Height of Deck above MLLW	8		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Stiff-leg derrick with 30-foot boom, hand-operated hoist. 1-25 ton Mobile Boat Hoist.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through small lines and hose.		
Railway Connections	None.		
Highway Connections	Via Cutting Boulevard (arterial), asphalt, 60 feet wide.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Waterline, hose, and hand extinguishers.		
Remarks	Marine railway, located adjacent to west end of wharf, serves small, commercial, fishing vessels. Wharf has hoisting, fueling, and mooring facilities for recreational craft. Adjacent slip approximately 175 feet wide and 400 feet long known as Richmond Yacht Harbor.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	15		
Name	Duncanson-Harrelson Co. Wharf.		
Location on Waterfront	Near inner end of northeast side of turning basin at head of Santa Fe Channel.		
Owned by	The Duncanson-Harrelson Company.		
Operated by	The Duncanson-Harrelson Company.		
Purpose for which Used	Mooring company-owned floating equipment.		
Type of Construction	Timber pile, marginal, shore wharf with timber deck on part. Constructed in 1942.		
Description	Face (feet)		
Dimensions	500+70		
Depth Alongside at MLLW	10		
Usable Berthing Space	500		
Width of Apron	Open.		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 25-ton, diesel, crawler crane with 60-foot boom. Floating derricks up to 50-ton hoisting capacity usually available.		
Pipelines			
Water Supply and Waste Treatment Facilities Available to Vessels)	1" water pipe		
Railway Connections	One surface track serves yard in rear; connects with Atchison, Topeka and Santa Fe Railway and Southern Pacific Company.		
Highway Connections	Via Cutting Boulevard (arterial), asphalt, 60 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Water pump, hand extinguishers, and watchmen.		
Remarks	One 200-ton marine railway located at upper end of wharf.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	16		
Name	Richmond Boat Works, Marine Railway Pier.		
Location on Waterfront	At head of Santa Fe Channel, on north side of the turning basin.		
Owned by	Richmond Boat Works.		
Operated by	Don Harlander, Quentin Lewton		
Purpose for which Used	Mooring small vessels for repair.		
Type of Construction	Timber pile, timber-decked pier, with mooring floats extending outward from face.		
Description	Face (feet)	East side (feet)	West side (feet)
Dimensions	5	75	75
Depth Alongside at MLLW	8	8-0	8-0
Usable Berthing Space	Floats.	50	25
Width of Apron	Open.		
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 3/4-ton, hand-operated, timber, mast and boom derrick with 25-foot boom.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through small waterline and hose (water supply)		
Railway Connections	None.		
Highway Connections	Via Cutting Boulevard (arterial approach and access), asphalt, 60 feet wide, Highway 17.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Waterline, hose, and hand extinguishers.		
Remarks	Marine railway on east side of pier has capacity for about 20 tons. Municipal ramp on west side for launching trailered, recreational boats.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	17		
Name	Turning Basin Mooring.		
Location on Waterfront	Southwest side of turning basin at head of Santa Fe Channel.		
Owned by	Atchison, Topeka and Santa Fe Railway Company.		
Operated by	Duncanson-Harrelson Company and others.		
Purpose for which Used	Mooring marine contractor's floating equipment and rafts of piling.		
Type of Construction	Bank of turning basin with offshore moorings.		
Description	Moorings (feet)		
Dimensions	500 approx.		
Depth Alongside at MLLW	20-15		
Usable Berthing Space	500, approx.		
Width of Apron	Open bank.		
Height of Deck above MLLW	10-12, top of bank.		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Unlighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)	Approx. 10		
Surfacing Type	Asphalt paved		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Floating derricks and mobile cranes are available.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	Two surface tracks of Atchison, Topeka and Santa Fe Railway extend along rear of bank of turning basin.		
Highway Connections	Via private access road, asphalt, 20 feet wide from Cutting Boulevard (arterial), asphalt, 60 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Watchmen.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	18		
Name	Santa Fe Sugar Dock.		
Location on Waterfront	Southwest side of Santa Fe Channel, about 0.4 mile from entrance.		
Owned by	Atchison, Topeka and Santa Fe Railway Company.		
Operated by	Atchison, Topeka and Santa Fe Railway Company.		
Purpose for which Used	Receipt of sacked sugar by inland waterway vessels for transfer to railroad cars.		
Type of Construction	Timber pile, timber-decked, shore wharf with timber railroad trestle approach from shore to upper end.		
Description	Face (feet)	Lower end (feet)	
Dimensions	545	51	
Depth Alongside at MLLW	24	-	
Usable Berthing Space	545	-	
Width of Apron	2		
Height of Deck above MLLW	15		
Load Capacity per Sq. Ft. (Lbs.)	600		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	General		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One-timber frame, metal covered, wooden floor, timber roof		
Length and Width (Feet)	500 by 45		trusses./
Height Inside (Feet)	15 from working floor		
Floor Area for Cargo (Sq. Ft.)	8,700, working floor only.		
Load Capacity per Sq.Ft. (Lbs.)	600		
Cargo Doors	Shipside: two, 27 by 14 feet and four, 13 by 12 feet.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines			
Water Supply and Waste Treatment Facilities	Through 3/4-inch line and hose (water supply)		
Railway Connections	Atchison, Topeka and Santa Fe Railway; two carfloor-level tracks extend full length of transit shed, total length 976 feet.		
Highway Connections	Via private access drive, asphalt, 25 feet wide from Canal Boulevard (marginal and approach), asphalt, 50 feet wide.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Hose reels, hydrants, hand extinguishers, and watchmen.		
Remarks	Cargo handled through shipside doors across 500- by 20-foot working floor to railroad freight cars on tracks inside shed.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	19
Name	Santa Fe Vessel Mooring.
Location on Waterfront	Southwest side of Santa Fe Channel, about 0.28 mile from entrance.
Owned by	Atchison, Topeka and Santa Fe Railway Company.
Operated by	Various operators.
Purpose for which Used	Mooring vessels. (See Remarks)
Type of Construction	Bank of channel fronted by mooring dolphins, and piles.
Description	Mooring Dolphins (feet)
Dimensions	350
Depth Alongside at MLLW	30-10
Usable Berthing Space	350
Width of Apron	Open bank.
Height of Deck above MLLW	10-12, top of bank
Load Capacity per Sq. Ft. (Lbs.)	-
Lighted or Unlighted	Unlighted.
Storage Space	None.
Covered (Transit Sheds)	
Cargo Type (Bulk, Container, Etc.)	
Number and Type of Construction	
Length and Width (Feet)	
Height Inside (Feet)	
Floor Area for Cargo (Sq. Ft.)	
Load Capacity per Sq. Ft. (Lbs.)	
Cargo Doors	
Open	
Cargo Type	
Area (Acres)	
Surfacing Type	
Tank (Other than Petroleum)	
Mechanical Handling Facilities	None.
Pipelines	
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.
Railway Connections	None.
Highway Connections	Via private access drive, asphalt, 25 feet wide, from Canal Boulevard (marginal and approach).
Electric Current (Available to Vessels)	None.
Fire Protection (Other than City)	
Remarks	Used as mooring for whaling vessels not in service and for a whaling vessel containing oil in storage. Large open area located in rear.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	20		
Name	National Gypsum Pier		
Location on Waterfront	On Santa Fe Channel opposite		
Owned by	National Gypsum Co.		
Operated by	National Gypsum Co.		
Purpose for which Used	Unloading bulk gypsum		
Type of Construction	Steel pilings, wooden decks. Bumpers of concrete. Constructed in 1964.		
Description	Face (feet)	End (feet)	
Dimensions	85	5	30X5
Depth Alongside at MLLW	30-35'		
Usable Berthing Space	300'		
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)	Storage Dome - bulk gypsum.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Convever belt to storage dome.		
Pipelines	-		
Water Supply and Waste Treatment Facilities (available to vessels)	None		
Railway Connections	None		
Highway Connections	Via private access drive, asphalt, from Canal Boulevard (marginal and approach).		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	-		
Remarks			

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	21		
Name	Union Oil Co. Barge Dock.		
Location on Waterfront	West side of Inner Harbor Channel, near entrance to Santa Fe Channel.		
Owned by	Union Oil Company of California.		
Operated by	Union Oil Company of California.		
Purpose for which Used	Shipment and occasional receipt of petroleum products; bunkering vessels.		
Type of Construction	Concrete pile, concrete-decked, offshore wharf, with one 50- by 20-foot approach; row of mooring dolphins with catwalk at upper end; face of wharf fronted by timber fender system. Barge and Tanker Docks connected by catwalk. Constructed in 1956.		
Description	Face (feet)	Lower end (feet)	Upper end (feet)
Dimensions	150, Approx.	45	45
Depth Alongside at MLLW	35	-	-
Usable Berthing Space	250 w/dolph.	-	-
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Hosehandling at wharf is by ships' gear and small tractor crane.		
Pipelines	*(See Remarks)		
Water Supply and Waste Treatment Facilities Available to Vessels)	Through one 3-inch line (water supply)		
Railway Connections	Tracks serving tankcar loading racks and warehouse at plant in rear; connect with Atchison, Topeka and Santa Fe Railway.		
Highway Connections	Via Canal Boulevard, asphalt, 50 feet wide, from Cutting and Garrard Boulevards.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	One 6-inch waterline, plant pumps, and monitor nozzles.		
Remarks	* One 6-inch sloop line extends from wharf to one 5,000-barrel-capacity sloop tank. Additional pipeline connections are located on wharf and connect with one 16-, one 10-, six 8-, and three 6-inch pipelines extending between Wharf and Tanker Dock. Wharf and Tanker Docks are spaced about 230 feet apart; together they provide one large tanker berth.		

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OIL-HANDLING FACILITIES

Reference Number Oil Map	Operator and/or user	TANKS	
		Number	Total Capacity (barrels)
21	Union Oil Co. of Calif. (Tanks are connected by pipeline with company-owned refinery at Oleum, Calif.)	75	407,250
Total		75	407,250

PIERS, WHARVES, AND DOCKS

Reference Number on Map	22		
Name	Union Oil Co. Tanker Dock.		
Location on Waterfront	West side of Inner Harbor Channel about 0.13 mile below entrance to Santa Fe Channel.		
Owned by	Union Oil Company of California		
Operated by	Union Oil Company of California		
Purpose for which Used	Receipt and occasional shipment of petroleum products; bunkering vessels.		
Type of Construction	Concrete pile, concrete-docked, marginal, offshore wharf with two 50- by 20-foot truck approaches from shore; timber fender system with steel coil springs along face of wharf. Constructed in 1956.		
Description	Face (feet)	Lower end (feet)	Upper end (feet)
Dimensions	225	45	45
Depth Alongside at MLLW	35	-	-
Usable Berthing Space	225	-	-
Width of Apron	Open.		
Height of Deck above MLLW	10-12, approx.		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Hosehandling at wharf is by ships' gear and small tractor crane.		
Pipelines	(See Remarks)		
Water Supply and Waste Treatment Facilities Available to Vessels)	Through one 3-inch line (water supply)		
Railway Connections	Tracks serving tankcar loading racks and warehouse at plant in rear; connect with Atchison, Topeka and Santa Fe Railway.		
Highway Connections	Via Canal Boulevard, asphalt, 50 feet wide, from Cutting and Garrard Boulevards.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	One 6-inch waterline, plant pumps, and monitor nozzles.		
Remarks	One 16-, one 10-, and five 8-inch pipelines on wharf connect with the following steel storage tanks located at terminal in rear; 3 heated, fuel oil, storage tanks, total capacity 170,000 bbl., used for supplying vessels with bunker fuel; 17 tanks with total capacity for 180,750 bb. of various petroleum products; and 55 tanks with total storage capacity for 56,500 bbls. of lube oils. Terminal is connected by pipelines with Oleum Refinery and with Southern Pacific Pipe Lines, Inc. (a common carrier petroleum products 6" pipeline with maximum capacity of 26,000 barrels/day).		

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OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user	TANKS	
		Number	Total Capacity (barrels)
22	Union Oil Co. of Calif. (Tanks are connected by pipeline with company-owned refinery at Oleum, Calif.)	75	407,250
Total		75	407,250

PIERS, WHARVES, AND DOCKS

Reference Number on Map	23		
Name	Atlantic Richfield Co. Barge Dock		
Location on Waterfront	Approximately 0.23 mile below entrance to Santa Fe Channel.		
Owned by	Atlantic Richfield Co.		
Operated by	Atlantic Richfield Co.		
Purpose for which Used	Receipt and shipment of petroleum products by barge; bunkering vessels.		
Type of Construction	Concrete pile, concrete-decked, offshore wharf with one 45-by 15-foot approach; face of wharf fronted by timber fender system. Barge and Tanker Docks connected by catwalk. Constructed in 1959 & 1960.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	150, approx.	30	30
Depth Alongside at MLLW	34	-	-
Usable Berthing Space	150 (See Remarks)	-	-
Width of Apron	Open		
Height of Deck above MLLW	10-12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Hosehandling at wharf is by ships' gear and small tractor crane.		
Pipelines	Five 10- and three 8-inch pipelines extend from wharf to 46 steel storage tanks at terminal in rear, total capacity 737,000 barrels.		
Water Supply and Waste Treatment Facilities Available to Vessels)	Water supply available.		
Railway Connections	Tracks serving tank car loading racks in rear connect with Atchison, Topeka and Santa Fe Railway.		
Highway Connections	Via Canal Boulevard (marginal and approach), asphalt, 50 feet wide from Cutting Boulevard.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Plant pumps, hydrants, monitor nozzles, hand extinguishers, and watchmen.		
Remarks	Barge and Tanker Docks are spaced about 315 feet apart; together they provide one large tanker berth.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
23	Atlantic Richfield Co.	46	737,000
Total		46	737,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	24		
Name	Atlantic Richfield Co. Tanker Dock.		
Location on Waterfront	Approximately 0.23 mile below entrance to Santa Fe Channel.		
Owned by	Atlantic Richfield Co.		
Operated by	Atlantic Richfield Co.		
Purpose for which Used	Receipt and occasional shipment of petroleum products and petro-chemicals; bunkering vessels.		
Type of Construction	Concrete pile, concrete-decked, offshore wharf with two 45- by 15-foot truck approaches from shore; face of wharf fronted by timber fender system with steel coil springs. Constructed in 1959 & 1960.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	250, approx.	40	40
Depth Alongside at MLLW	34	-	-
Usable Berthing Space	250 (See Remarks, Ref. No. 22)		(See Remarks)
Width of Apron	Open.		
Height of Deck above MLLW	10-12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Hosehandling at wharf is by ships' gear and small tractor crane.		
Pipelines	See Remarks.		
Water Supply and Waste Treatment Facilities	Through one 6-inch line with 2-1/2-inch Siamese connection.		
Available to Vessels' Railway Connections	Tracks serving tank car loading racks in rear connect with Atchison, Topeka and Santa Fe Railway.		
Highway Connections	Via Canal Boulevard (marginal and approach), asphalt, 50 feet wide from Cutting Boulevard.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Plant pumps, hydrants, monitor nozzles, hand extinguishers, and watchmen.		
Remarks	One 12-, four 10-, twelve 8-, and six 6-inch pipelines extend from wharf to storage tanks. Terminal is connected with common carrier pipeline system of Southern Pacific Pipe Lines, Inc.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
24	Atlantic Richfield Co.	46	737,000
Total		46	737,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	25		
Name	Richmond Shipyard #3, Wharf Berth 1		
Location on Waterfront	Point Potrero.		
Owned by	City of Richmond		
Operated by	Canal Industrial Park		
Purpose for which Used	Import of automobiles.		
Type of Construction	Concrete pile, concrete-decked wharf.		
Description	Face (feet)		
Dimensions	1,050		
Depth Alongside at MLLW	25		
Usable Berthing Space	1,050		
Width of Apron	Open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	* automobiles		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through lines on wharf. (water supply)		
Railway Connections	Atchison, Topeka and Santa Fe Railway connects with shipyard trackage located in rear.		
Highway Connections	Via Canal Boulevard (marginal and approach), asphalt, 50 feet wide from Cutting Boulevard.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Fire lines, hydrants, hose; chemical carts, hose carts, and hand extinguishers.		
Remarks	*New automobiles are stored in various storage areas west of the wharf.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	26		
Name	U.S. Maritime Richmond Shipyard#3 Wharf Berths 2,3 & 4.		
Location on Waterfront	Point Potrero, west and north sides of Inner Harbor Channel.		
Owned by	City of Richmond.		
Operated by	Willamette Iron and Steel Company.		
Purpose for which Used	Mooring vessels for repair.		
Type of Construction	Concrete pile, concrete-decked wharf. Five parallel graving docks.		
Description	South side (feet)	Southeast (feet)	East side (feet)
Dimensions	420	300	525
Depth Alongside at MLLW	25	25	25
Usable Berthing Space	420	300	525
Width of Apron	Open.		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	500		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 45-, two 30-, and one 20-ton, electric, traveling, revolving, full-portal, shipyard cranes, each with 95-foot jib extension.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through lines on wharf. (water supply)		
Railway Connections	Atchison, Topeka and Santa Fe Railway connects with shipyard trackage located in rear.		
Highway Connections	Via foot of Canal Boulevard (marginal, approach, and access), asphalt, 50 feet wide.		
Electric Current (Available to Vessels)	Available for lighting and power.		
Fire Protection (Other than City)	Fire lines, hydrants, hose; chemical carts, hose carts, and hand extinguishers.		
Remarks	Five-parallel graving docks located west of south side of wharf; Docks Nos. 2, ,4 and 5 are being operated by Willamette Iron and Steel Co. in connection with making repairs to vessels.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	27		
Name	Richmond Shipyard #3, Finger Pier No. 1, Berths A and B.		
Location on Waterfront	North side of Inner Harbor Channel, west of Point Potrero.		
Owned by	City of Richmond		
Operated by	Levin Metals Corporation.		
Purpose for which Used	Mooring vessels for shipbreaking and scrapping. Loading scrap for export.		
Type of Construction	Concrete pile, concrete-decked pier.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	50	475	475
Depth Alongside at MLLW	25	25-0	25-0
Usable Berthing Space	50	450	450
Width of Apron	Open.		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	600		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One electric, traveling, revolving, full-portal, shipyard crane with 90-foot boom; capacity 32 tons at 40-foot radius.		
Pipelines			
Water Supply and Waste Treatment Facilities	Through lines on wharf.		
(Available to Vessels)			
Railway Connections	One surface track extends full length of pier; connects through shipyard trackage in rear with Atchison, Topeka and Santa Fe Railway.		
Highway Connections	Via foot of Canal Boulevard (marginal, approach, and access), asphalt, 50 feet wide.		
Electric Current (Available to Vessels)	Available for lighting power		
Fire Protection (Other than City)	Fire lines, hydrants, hose; chemical carts, hose carts, and hand extinguishers.		
Remarks	Piers Nos. 1 and 2 project from shore west of the 5 graving docks, and are parallel to each other with 275-foot-wide slip between them.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	28		
Name	Richmond Shipyard #3, Finger Pier No. 2, Berths C and D.		
Location on Waterfront	North side of Inner Harbor Channel, west of Point Potrero.		
Owned by	City of Richmond		
Operated by	Levin Metals Corporation		
Purpose for which Used	Mooring vessels for shipbreaking and scrapping.		
Type of Construction	Concrete pile, concrete-decked pier.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	50	560	560
Depth Alongside at MLLW	27	27-0	27-0
Usable Berthing Space	50	525	500
Width of Apron	Open.		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	600		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One electric, traveling, revolving, full-portal, shipyard crane with 90-foot boom; capacity 32 tons at 40-foot radius.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through lines on wharf. (water supply)		
Railway Connections	Atchison, Topeka and Santa Fe Railway connects with shipyard trackage located in rear.		
Highway Connections	Via foot of Canal Boulevard (marginal, approach, and access), asphalt, 50 feet wide.		
Electric Current (Available to Vessels)	Available for lighting and power.		
Fire Protection (Other than City)	Fire lines, hydrants, hose; chemical carts, hose carts, and hand extinguishers.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	29		
Name	Parr-Richmond Terminal No. 1 Oil Pier.		
Location on Waterfront	Eastern side of Parr-Richmond Terminal No.1		
Owned by	City of Richmond.		
Operated by	Parr-Richmond Terminal Company and Petromark, Inc.		
Purpose for which Used	Receipt and shipment of petroleum products.		
Type of Construction	Timber pile, timber-decked, finger pier with 60- by 20-foot approach; double row of dolphins with catwalk extends outward 300 feet from face of pier. Constructed in 1927.		
Description	Face (feet)	West side (feet)	East side (feet)
Dimensions	35	220	230
Depth Alongside at MLLW	-	34	25-12
Usable Berthing Space	-	520 w/dolph.	530 w/dolph.
Width of Apron	Open.		
Height of Deck above MLLW	13		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Hosehandling crane.		
Pipelines	Two 12-, one 8-, and three 6-inch pipelines from pier to 10 steel storage tanks in rear, total capacity 468,000 barrels.		
Water Supply and Waste Treatment Facilities			
(Available to Vessels)			
Railway Connections	Tracks located in rear serve tank car loading racks and general cargo terminal; connect with Atchison, Topeka and Santa Fe Railway.		
Highway Connections	Via foot of Garrard Boulevard (approach and access), asphalt 45 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hydrants, hose, and watchmen.		
Remarks	This facility will be removed during the summer of 1972.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user	TANKS	
		Number	Capacity (barrels)
29	Atlantic Richfield Co.	10	468,000
Total		10	468,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	30		
Name	Parr-Richmond Terminal No. 1 Wharf.		
Location on Waterfront	East of foot of Garrard Boulevard.		
Owned by	City of Richmond.		
Operated by	Parr-Richmond Terminal Company.		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade; receipt and shipment of petroleum products; and receipt and shipment of vegetable oil.		
Type of Construction	Concrete pile, concrete-decked wharf; unused, curved, railroad trestle extends from shore to east side. Constructed in 1914.		
Description	Face (feet)	West side (feet)	East side (feet)
Dimensions	557	90	90
Depth Alongside at MLLW	32	32	32-0
Usable Berthing Space	557	-	Rail Trestle.
Width of Apron	18	30	8-6
Height of Deck above MLLW	13.5		
Load Capacity per Sq. Ft. (Lbs.)	1,100		
Lighted or Unlighted	Lighted.		
Storage Space	One-concrete with steel roof supports, asphalt-surfaced, concrete floor; a canopy roof extends over rail tracks and connects with storage warehouse in rear. General Cargo.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)	525 by 67		
Height Inside (Feet)	23		
Floor Area for Cargo (Sq. Ft.)	34,075		
Load Capacity per Sq. Ft. (Lbs.)	1,100		
Cargo Doors	Shipside; nineteen; rear; same; all steel rollup type.		
Area			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	Petroleum products and vegetable oil. Petromark, Inc.		
Mechanical Handling Facilities	One unused, 5-ton, electric, overhead, bridge crane travels full length of transit shed. An electric winch is used for shifting rail cars on rear tracks. Forklift trucks cross the 2 rear tracks between transit shed and warehouse on a movable bridge mounted on railroad car frame.		
Pipelines	(See Remarks)		
Water Supply and Waste Treatment Facilities	Through one 4-inch line with fixed meters.		
(Available to Vessels)			
Railway Connections	Two depressed tracks between transit shed and warehouse serve both buildings; connect with Atchison, Topeka and Santa Fe Railway.		
Highway Connections	Via foot of Garrard Boulevard (approach and access), asphalt, 45 feet wide.		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)	Sprinkler system in transit shed and in storage warehouse, chemical carts, hand extinguishers, suction line for fire truck pumpers, & watchmen.		
Remarks	Bray Oil Company; two 8-inch pipelines from wharf to 7 steel storage tanks located 0.2 mile inland along Garrard Blvd., total capacity 135,000 bbl. Petromark, Inc.; two 6-inch line from wharf to 41 steel storage tanks, total capacity 134,000 bbl.		

OIL-HANDLING FACILITIES			
Reference Number On Map	Operator and/or user	TANKS	
		Number	Total Capacity (barrels)
30	Bray Oil Co.	4	40,000
		2	40,000
		1	55,000
Total		7	135,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	31		
Name	Parr-Richmond Terminal No. 1 Oil Barge Wharf.		
Location on Waterfront	West of foot of Garrard Boulevard.		
Owned by	City of Richmond.		
Operated by	Parr-Richmond Terminals.		
Purpose for which Used	Receipt and shipment of petroleum products by barge.		
Type of Construction	Timber pile, timber-decked wharf. Constructed in 1927.		
Description	Face (feet)	South side (feet)	
Dimensions	240	28	
Depth Alongside at MLLW	15-12	-	
Usable Berthing Space	120		
Width of Apron	Open.		
Height of Deck above MLLW	13.5		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	(See Remarks)		
Water Supply and Waste Treatment Facilities	None.		
(Available to Vessels)			
Railway Connections	None.		
Highway Connections	Via foot of Garrard Boulevard (approach and access), asphalt, 45 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Suction line for fire truck pumers handles extinguishers, and watchmen.		
Remarks	One 8-inch pipeline extends from wharf and connects with pipeline extending to Bray Oil Company's storage tanks.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user	TANKS	
		Number	Total Capacity (barrels)
31	Bray Oil Co.	4	40,000
		2	40,000
		1	55,000
Total		7	135,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	32		
Name	Santa Fe Ferry Point Freight Slip, No.		
Location on Waterfront	Point Richmond at Ferry Point, West of Parr-Richmond Terminal No. 1		
Owned by	Atchison, Topeka and Santa Fe Railway Co.		
Operated by	" " " " " "		
Purpose for which Used	Transfer of railroad freight cars to and from car ferries; mooring idle floating equipment.		
Type of Construction	Timber ferry rack and adjustable bridge with timber pile timber-decked approach. Constructed in 1901.		
Description			
Dimensions	One car-		
Depth Alongside at MLLW	ferry slip		
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities Available to Vessels)			
Railway Connections	Atchison, Topeka and Santa Fe Railway: 2 surface tracks on transfer bridge and approach join additional trackage in rear.		
Highway Connections	Via private drive (access), crushed rock, 15 feet wide, from foot of Garrard Blvd.		
Electric Current (Available to Vessels)	For own use.		
Fire Protection (Other than City)	One 6-inch waterline, hydrants, hose reels.		
Remarks	Car ferries operate between this transfer bridge, Oakland, Alameda, and San Francisco, California.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	33		
Name	Standard Oil Co. Richmond Refinery Long Wharf		
Location on Waterfront	Approximately 1.33 miles northeast of Point Richmond and south of Richmond-San Rafael Bridge		
Owned by	Standard Oil Company of California, Western Operations, Inc.		
Operated by	do.		
Purpose for which Used	Receipt and shipment of bulk liquid petroleum products; shipment of packaged petroleum products; bunkering vessels		
Type of Construction	Concrete pile, concrete-decked, offshore wharf with 4,200-by 26-foot approach. Northwest end of wharf is 112 feet wide and the southeast end is 132 feet wide. Constructed in 1902, extended in 1947.		
Description	Face (feet)	Rear of Face North Section (feet)	Rear of Face South Section (feet)
Dimensions	2,462.5	1,660	630
Depth Alongside at MLLW	38	18	30
Usable Berthing Space	2,462.5	1,660	630
Width of Apron	23, 60, open	12	25, open
Height of Deck above MLLW	15	13	15
Load Capacity per Sq. Ft. (Lbs.)	300, 450	300	450
Lighted or Unlighted	Lighted	Lighted	Lighted
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	One, steel frame, clear span, corrugated		
Length and Width (Feet)	240 x 86		
Height Inside (Feet)	15		
Floor Area for Cargo (Sq. Ft.)	20,400 asbestos-covered concrete floor		
Load Capacity per Sq. Ft. (Lbs.)	450		
Cargo Doors	Continuous 22 x 12-foot wooden sliding doors both sides		
Open	One 28 x 12-foot steel roll-up door each end		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Forklift trucks available for handling packaged cargo including drums; and 10 air-operated mast and boom derricks on wharf for handling hose.		
Pipelines	One 20-, two 16-, eleven 12-, eight 8-, five 6-, twelve 4-, and one 3-inch pipelines extend from wharf to approximately (Cont'd under remarks)		
Water Supply and Waste Treatment Facilities	Water supply through one 6-inch line with 1 1/2-inch connections for hose; capacity 1,500 g.p.h.		
Railway Connections	Tracks serving oil refinery in rear connect with Atchison, Topeka, and Santa Fe Railway and Southern Pacific Company.		
Highway Connections	Via Scofield Avenue (private access road), and Standard Avenue (approach), both paved and about 25 feet wide.		
Electric Current (Available to Vessels)	A.C., 120 volts, single-phase, 60-cycle; A.C., 480 volts, 3-phase, 60 cycle.		
Fire Protection (Other than City)	Plant water pumps, line, hydrants, hose, foam generators, hand extinguishers, watchmen, and plant fire station with trucks on wharf.		
Remarks	The original wharf approach now serves as a pipeline trestle. (Pipelines - Cont'd) 1,400 steel storage tanks located at refinery. Wharf will be modernized to include four berths. New northerly and southerly berths will be used for unloading crude oil from 100,000 DWT class tankers. The two interior berths will service 35,000 DWT		

SPN Form 25 OT class tankers for unloading of crude oil and loading of refined petroleum products.

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
33	Standard Oil Company		
	Crude Oil	58	3,375,000
	Gasoline	12	925,000
	Jet Fuel	15	400,000
	Metal Distillates and Fuel Oils	40	485,000
	Residual Fuel Oil	16	435,000
	Note: Pipe line facilities also connect the refinery with Time Oil Co. at Richmond.		
Total		141	5,620,000

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	34		
Name	Standard Oil Co. Richmond Refinery Repair and Mooring Dock.		
Location on Waterfront	On southeast side of Long Wharf approach 275 feet in rear of main wharf head.		
Owned by	Standard Oil Company of California		
Operated by	Western Operations, Inc.		
Purpose for which Used	Do.		
Purpose for which Used	Mooring company-owned and other tugs, barges, and small tankers for service and repair; bunkering vessels.		
Type of Construction	Concrete pile, concrete-decked pier with timber fender system along sides; pier extends from south side of approach to Long Wharf.		
Description	Southwest side (feet)	Outer End (feet)	Northeast Side (feet)
Dimensions	451	53.5	425
Depth Alongside at MLLW	25	25	25
Usable Berthing Space	451	53.5	425
Width of Apron	open		
Height of Deck above MLLW	15		
Load Capacity per Sq. Ft. (Lbs.)	350		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Forklift trucks, truck cranes, and any required mechanized equipment available.		
Pipelines	None		
Water Supply and Waste Treatment Facilities Available to Vessels)	Through one 6-inch line with 1 1/2-inch connections for hose; capacity 1,500 g.p.h.		
Railway Connections	Tracks serving oil refinery in rear connect with Atchison, Topeka, and Santa Fe Railway and Southern Pacific Company.		
Highway Connections	Via Scofield Avenue (private access road), and Standard Avenue (approach), both paved and about 25 feet wide.		
Electric Current (Available to Vessels)	A.C., 120 volts, single-phase, 60-cycle; A.C., 480-volts 3-phase, 60-cycle.		
Fire Protection (Other than City)	Plant water pumps, line hydrants, hose, foam generators, hand extinguishers, watchmen, and plant fire station with trucks on wharf.		
Remarks	Buildings located along the main wharf approach cont in the wharf office, vessel crew dormitory, plant fire station and marine repair shop.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	35		
Name	Blake Brothers Rock Quarry Wharf (Not in use)		
Location on Waterfront	South of Castro Point near south side of Richmond-San Rafael Bridge.		
Owned by	The Castro Point Railway and Terminal Company.		
Operated by (formerly)	Blake Brothers Company- Now out of business		
Purpose for which Used (formerly)	Receipt and shipment of sand and crushed rock by barge.		
Type of Construction	Timber pile, timber-decked, L-shaped wharf consisting of 150- by 25-foot head and 275-by 25-foot southeast side approach. Facilities deteriorated beyond use.		
Description	Face (feet)	Southeast side (feet)	
Dimensions	150	175+45+ 100	
Depth Alongside at MLLW	8	8-5	
Usable Berthing Space	150	175 + 75	
Width of Apron	Open		
Height of Deck above MLLW	11		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Other			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 8- to 10 ton, steam, stiff-leg derrick with 94-foot boom and 1 1/2-cubic yard clamshell bucket was used for unloading sand from barges along southeast side. Electric belt conveyor for loading barges extends from shore to wharf face.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	Trackage serving area in rear connects with Atchison, Topeka and Santa Fe Railway and Southern Pacific Company.		
Highway Connections	Via Western Drive (access, approach, and marginal), asphalt, 25 feet wide from Richmond-San Rafael Bridge approach.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Waterline, Hose.		
Remark	Rocks from company-owned quarry located in rear also was loaded to barges at a 50-by 12-foot timber pile, timber-decked pier located approximately 200 feet north of approach to wharf; pier has an adjustable ramp at outer end for highway dump trucks and barges berth along 200-foot row of timber, mooring dolphins fronting face of pier. A privately owned and operated marine railway is located south of wharf.		

SPN Form 25 OT

PIERS, WHARVES, AND DOCKS

Reference Number on Map	36		
Name	State of California Ferry Slips		
Location on Waterfront	Castro Point, north of Richmond-San Rafael Bridge.		
Owned by	State of California		
Operated by	River Lines, Inc., and others.		
Purpose for which Used	Mooring, barges, and tugs.		
Type of Construction	One timber, ferry slip with 1,000-foot-long timber pile, concrete-surfaced, vehicular approach from shore Constructed in 1901.		
Description	Slip (feet)		
Dimensions			
Depth Alongside at MLLW	15-12		
Usable Berthing Space	200, approx. (see remarks)		
Width of Apron			
Height of Deck above MLLW	10-12		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)	None.		
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines			
Water Supply and Waste Treatment Facilities Available to Vessels			
Railway Connections	None.		
Highway Connections	Via local access road from Western Drive (marginal and approach), asphalt, 25 feet wide.		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks	Slip was part of former Richmond Terminal for ferries operating between Castro Point and Point San Quentin; at time of survey, only the inshore side of slip was used for mooring purposes. Three additional, abandoned slips are located near shore north of approach and are used for mooring small recreational craft.		

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	37		
Name	Standard Oil Co. Richmond Refinery Point Orient Wharf.		
Location on Waterfront	Point-Orient, 0.75 mile north of Molate Point.		
Owned by	Standard Oil Company of California, Western Operations, Inc.		
Operated by			
Purpose for which Used	Receipt of crude oil; receipt and shipment of petroleum products and petrochemicals; bunkering vessels.		
Type of Construction	Timber pile, timber-decked, L-head wharf with 1,200- by 14-foot approach; timber fender system with steel, coil springs along face. Constructed in 1905.		
Description	Face (feet)	Rear of face (feet)	Ends (feet)
Dimensions	504	464	60 each
Depth Alongside at MLLW	40-36	25-15	36
Usable Berthing Space	504	464	60 each
Width of Apron	open		
Height of Deck above MLLW	14.5		
Load Capacity per Sq. Ft. (Lbs.)	300		
Lighted or Unlighted	lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Four fixed, hosehandling cranes with air-operated hoists and 30-foot booms.		
Pipelines	One 20-inch, crude oil pipeline extends from wharf to refinery; additional lines extend from wharf to tanks. three 12-, six 10-, one 8-, and two 6-inch pipelines.		
Water Supply and Waste Treatment Facilities Available to Vessels)			
Railway Connections	Surface track serves tank car loading rack at shore end of wharf approach; connects with Atchison, Topeka and Santa Fe Railway and Southern Pacific Co.		
Highway Connections	Vehicular access to wharf direct from Western Drive, asphalt, 25 feet wide.		
Electric Current (Available to Vessels)	Through one 6-inch line with 1 1/2-inch connection. capacity 1,500 g.p.h. -A. C., 110 volts, single-phase. 60 cycle.		
Fire Protection (Other than City)	Plant pumps, lines, monitor nozzles, hydrants, hose, chemical and hose carts, foam system, and watchmen.		
Remarks	Two 50,000-barrel tanks are located in rear of approach to wharf and are used for heavy fuel oil bunkering purposes.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
37	Standard Oil Company Bunkering Oil Note: Refinery tankage capacities listed under Ref. 33	2	100,000
Total		2	100,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	38		
Name	Parr-Richmond Terminal No. 4 Wharf.		
Location on Waterfront	Point San Pablo.		
Owned by	City of Richmond		
Operated by	Parr-Richmond Terminal Company (Red Rock Warehouse Co.) Pacific Molasses Company, Ltd., and Dorward & Sons Co.		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade: bulk liquids including petroleum products, molasses, and vegetable oils.		
Type of Construction	Offshore wharf, timber piles (some concrete-jacketed), with asphalt-paved, timber deck. Two approaches near center of wharf and 2 railroad trestles at north end. Constructed in 1926.		
Description			
	Face feet	South side (feet)	North side (feet)
Dimensions	1,047	175	100
Depth Alongside at MLLW	50-32		
Usable Berthing Space	1,047		
Width of Apron	20		
Height of Deck above MLLW	14.5		
Load Capacity per Sq. Ft. (Lbs.)	350		
Lighted or Unlighted	Lighted.		
Storage Space	One - 3 sections divided by firewalls, frame construction, asphalt-surfaced floor.		
Covered (Transit Sheds)	General cargo.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)	970 by 50-128		
Height Inside (Feet)	18 and 14		
Floor Area for Cargo (Sq. Ft.)	62,330 (not in use)		
Load Capacity per Sq.Ft. (Lbs.)	350		
Cargo Doors	Shipside; about eighteen, 12- by 9 foot sliding, wooden doors; rear: access doors at approaches.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Forklift trucks and other mechanized cargo-handling equipment available here from other waterfront terminals operated by Parr-Richmond Terminal Co.		
Pipelines	(See Remarks)		
Water Supply and Waste Treatment Facilities	Through one 3-inch line reduced to 1 1/2-inches with fixed meter.		
(Available to Vessels)			
Railway Connections	One unused, 900-foot track on apron; one 950-foot track, partly depressed along rear platform; connects with Atchison, Topeka and Santa Fe Railway and South, Pac. Co.		
Highway Connections	Via Western Drive (marginal, access, and approach). asphalt, 15 feet wide.		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)	Hydrants, hose, chemical cart, suction line for fire truck pumpers, hand extinguishers, and watchmen.		
Remarks	Red Rock Warehouse Co. (subsidiary of Parr Richmond Terminal Co.): One 12-inch pipeline from wharf to 6 petroleum storage tanks in rear, total capacity 207,125 barrels. Pacific Molasses Co., Ltd: one 12-inch pipeline from wharf to 9 molasses storage tanks. Dorward & Sons Co.: one 8-inch line from wharf to 48 vegetable oil storage tanks, total capacity 3,160,224 gallons: and two 6-inch lines to 7 petrochemical storage tanks. total capacity 46,000 barrels.		

OIL-HANDLING FACILITIES			
Reference Number On Map	Operator and/or user	TANKS	
		Number	Capacity (barrels)
38	Red Rock Warehouse Co.	6	207,125
Total		6	207,125

PIERS, WHARVES, AND DOCKS

Reference Number on Map	39		
Name	Golden Gate Fishing Co. Wharf.		
Location on Waterfront	300 feet northeast of Parr-Richmond Terminal No. 4 wharf.		
Owned by	City of Richmond.		
Operated by	Not operated		
Purpose for which Used	Whaling operation ceased on 15 Dec. 71.		
Type of Construction	Timber pile, timber-decked wharf, with 50-foot approach from building ashore.		
Description	Face (feet)		
Dimensions	35		
Depth Alongside at MLLW	12		
Usable Berthing Space	55 w/dolph.		
Width of Apron	open		
Height of Deck above MLLW	10-12		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Partly lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	Surface tracks on Western Drive along rear of building connect with Atchison, Topeka and Santa Fe Railway and Southern Pacific Co.		
Highway Connections	Via Western Drive (access, approach, and marginal), asphalt, 12 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks			

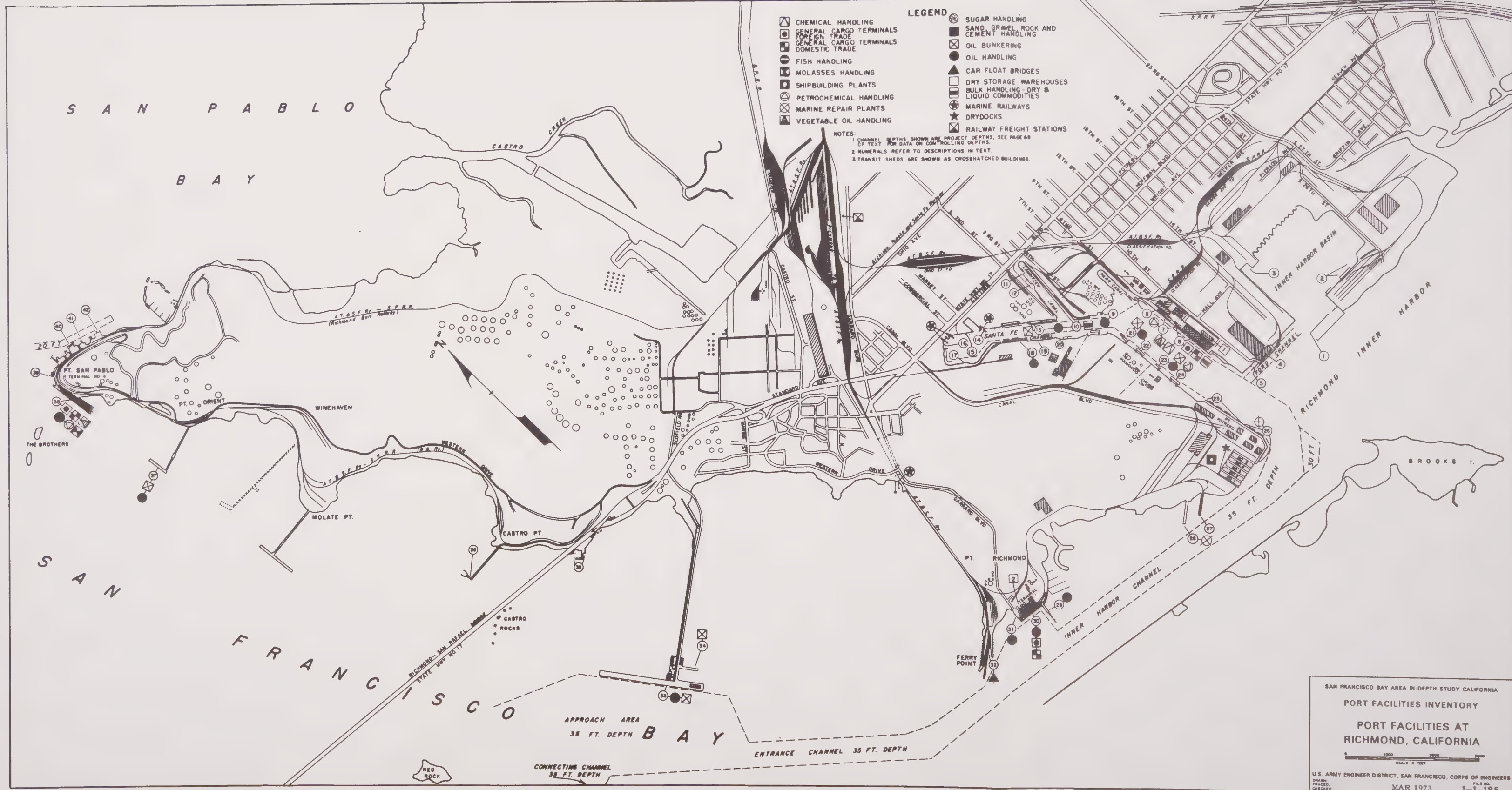
PIERS, WHARVES, AND DOCKS			
Reference Number on Map	40		
Name	Fisheries Mooring Dock.		
Location on Waterfront	About 0.25 mile northeast of Parr-Richmond Terminal No. 4 Wharf.		
Owned by	City of Richmond		
Operated by	Various Operators.		
Purpose for which Used	Mooring small vessels.		
Type of Construction	Timber pile, timber-decked wharf.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	185	10 + 20+ 55	45
Depth Alongside at MLLW	18-12		
Usable Berthing Space	185		
Width of Apron	25, open		
Height of Deck above MLLW	10-12		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	(Surface tracks on Western Drive along rear of building connect with Atchison, Topeka and Santa Fe Railway and Southern Pacific Co.)		
Highway Connections	(Via Western Drive (access, approach, and marginal), asphalt, 12 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks	Buildings extend full length of wharf to roadway in rear. Dorward & Sons Co. operates buildings at rear of wharf for private storage.		

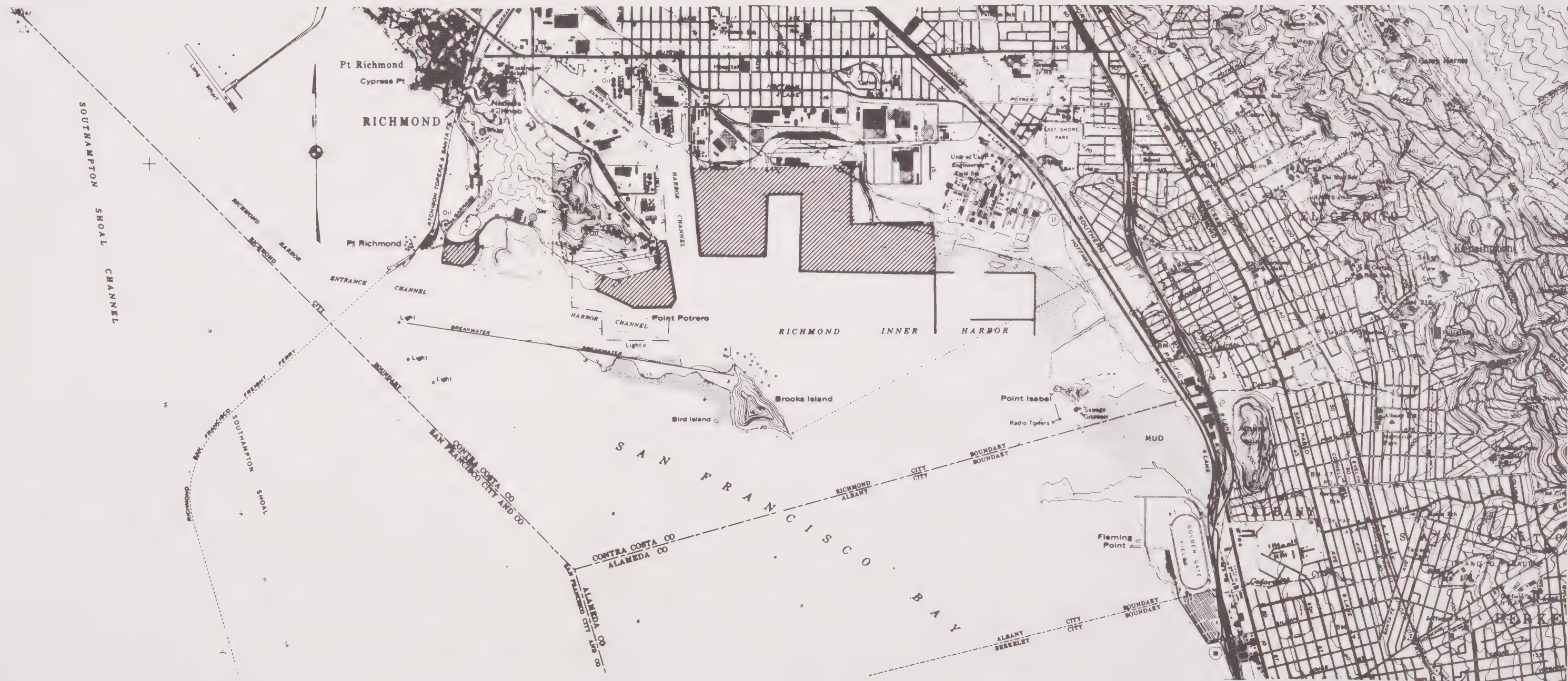
PIERS, WHARVES, AND DOCKS

Reference Number on Map	41		
Name	Del Monte Fishing Company Mooring Wharf.		
Location on Waterfront	About 0.3 mile northeast of Parr-Richmond Terminal No. 4 Wharf.		
Owned by	City of Richmond.		
Operated by	Del. Monte Fishing Co. (subsidiary of Western Fishing Co.)		
Purpose for which Used	Mooring and fueling of company-owned fishing vessels.		
Type of Construction	Timber pile, timber-decked wharf, partly undecked, with timber pile dolphins in line with face.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	50	85	60
Depth Alongside at MLLW	12-7		
Usable Berthing Space	115 w/dolph.		
Width of Apron	35, open		
Height of Deck above MLLW	10-12		
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Unlighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	Surface tracks on Western Drive along rear of building connect with Atchison, Topeka and Santa Fe Railway and Southern Pacific Company.		
Highway Connections	Via Western Drive (access, approach, and marginal), asphalt, 12 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hand extinguishers and waterline.		
Remarks	Wharf and shore in rear occupied by buildings.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	42		
Name	Del Monte Fishing Co. Whaling Station Mooring.		
Location on Waterfront	About 0.35 mile northeast of Parr-Richmond Terminal No.4 Wharf.		
Owned by	City of Richmond		
Operated by	Not operated		
Purpose for which Used	Whaling operation ceased on 15 Dec. 71.		
Type of Construction	Row of timber pile dolphins in line with eastern side of building ashore. Constructed 1935.		
Description	Mooring dolphins west side (feet)	Mooring dolphins east side(feet)	
Dimensions	95	95	
Depth Alongside at MLLW	5	5	
Usable Berthing Space	95	95	
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Partly lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	Surface tracks on Western Drive along rear of Building connect with Atchison, Topeka and Santa Fe Railway and Southern Pacific Co.		
Highway Connections	Via Western Drive (access, approach, and marginal), asphalt, 12 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Waterline and hose inside building.		
Remarks			

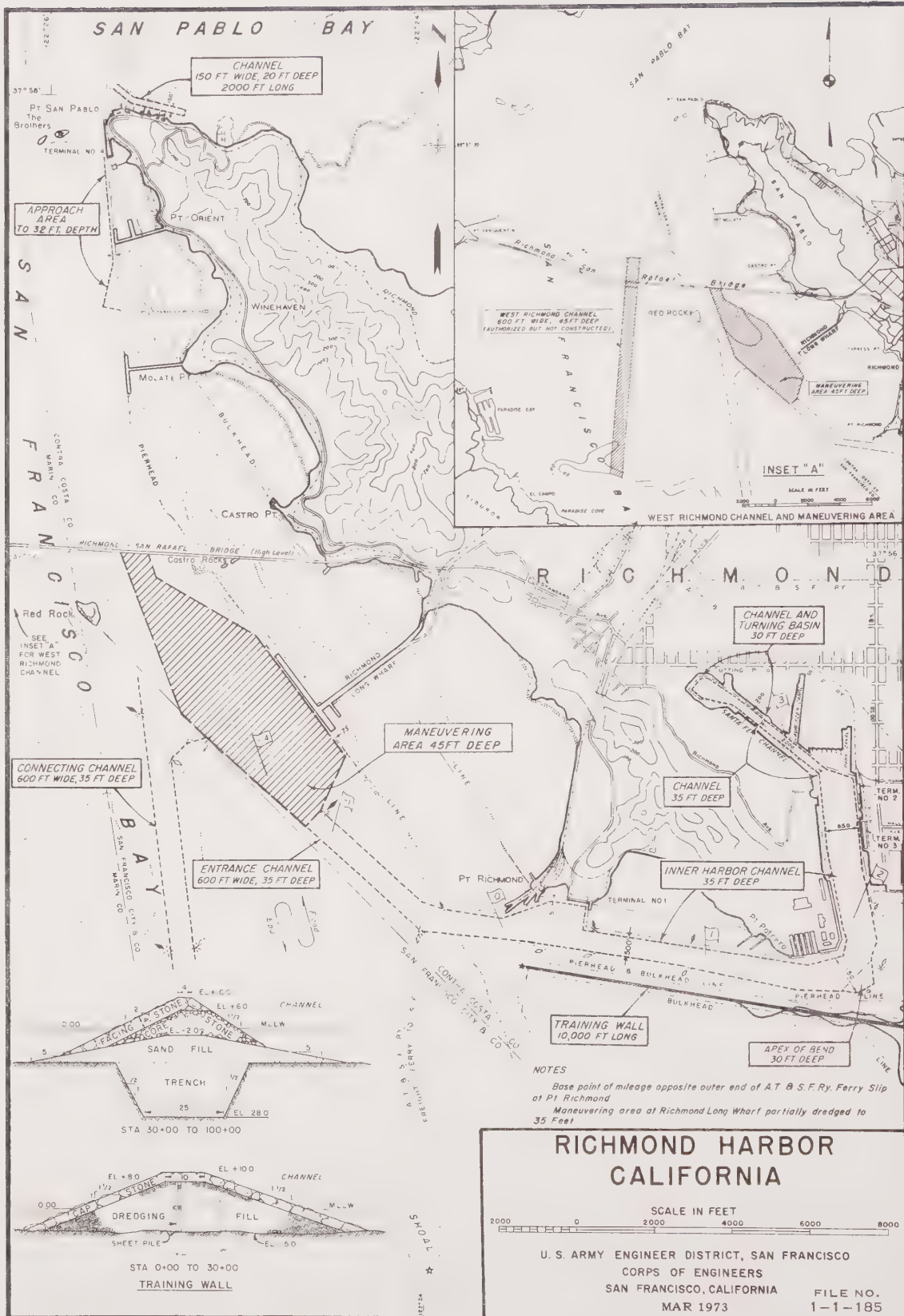




 POTENTIAL HARBOR DEVELOPMENT

SAN FRANCISCO BAY AREA IN-DEPTH STUDY
PORT FACILITIES INVENTORY
RICHMOND HARBOR
POTENTIAL FACILITIES

U.S. ARMY ENGINEER DIST., SAN FRANCISCO, C OF E
DRAWN: TO ACCOMPANY REPORT FILE NO. 1-1-185
TRACED: DATED MAR 1973
CHECKED:



14. WATERFRONT FACILITIES ON SAN PABLO BAY, CARQUINEZ AND MARE ISLAND STRAITS

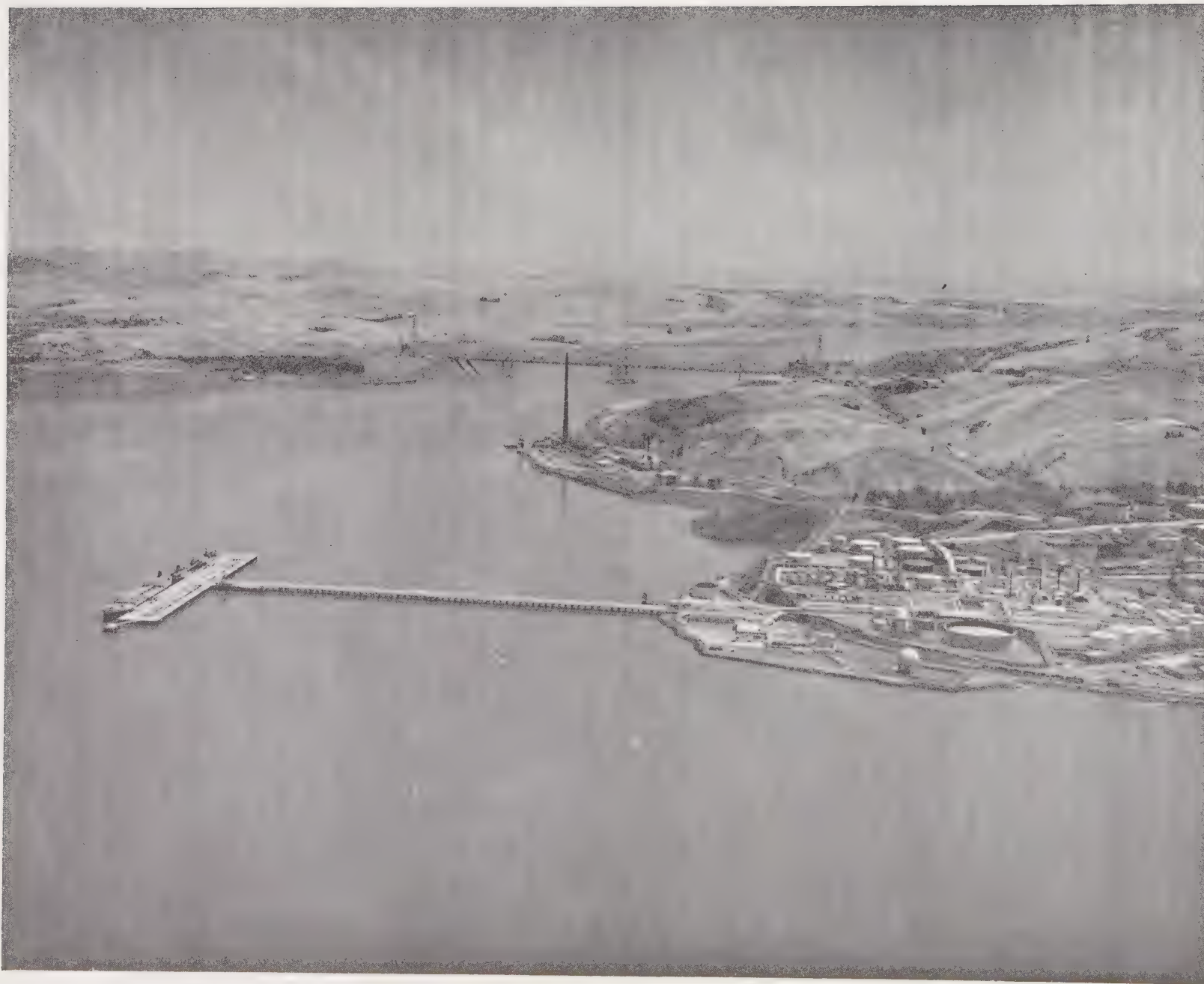
a. Existing waterfront facilities.

(1) The southeastern shore of San Pablo Bay, the southern shore of Carquinez Strait, and both shores of Mare Island Strait are the areas considered in this section of the report. In these areas lie the communities of Pinole, El Sobrante, Hercules, Rodeo, Oleum, and Selby on San Pablo Bay; Benicia, Martinez, Port Costa, Crockett, and Valona on Carquinez Strait; and Mare Island, Vallejo, and South Vallejo on Mare Island Strait.

(2) San Pablo Bay connects with the northern extremity of San Francisco Bay at a narrowing between Point San Pedro and Point San Pablo. On the east it connects with Carquinez Strait, through which connection Suisun Bay and the Sacramento and San Joaquin Rivers are joined with the San Francisco Bay system. Mare Island Strait extends northwesterly from Carquinez Strait from a point near the confluence of the latter with San Pablo Bay. Mare Island Strait is in reality the estuary of the Napa River, a comparatively small stream draining the Napa Valley of the Coast Range Mountains.

(3) Twenty-six waterfront facilities are described in this section of the report. Four are located on San Pablo Bay, five are along the eastern side of Mare Island Strait, five are along the north shore and ten are on the south side of Carquinez Strait, and two are on the south side of Suisun Bay between Bulls Head and Edith Points. Each of these twenty-six facilities is described in detail under a reference number in the table "Piers, Wharves, and Docks" on the following pages. The reference number assigned to each facility is used to designate its location on the accompanying map, Plate 27.

(4) With the exception of the Port of Benicia, all waterfront facilities described herein serve specific industries. Five major oil companies, Gulf Oil at Hercules, Union Oil at Oleum, Shell Oil at Martinez, Exxon Oil at Benicia and Phillips Petroleum Company at Avon have wharves serving refineries. These facilities handle bunkering, discharge crude oil, and load petroleum products and by-products. Other major private wharves are operated by California and Hawaiian Sugar Company at Crockett, and the Wade Corporation at Ozol. The Port of Benicia, a converted military arsenal, is located on the northern shore of Carquinez Strait and Suisun Bay some twenty-four miles northeast of the Golden Gate. The port, a part of an industrial complex known as Benicia Industrial Park, has a 2,400-foot wharf with water depth of 38 feet and an adjacent paved area of some 30 acres. The port-oriented industrial complex encompasses approximately 4,000 acres and over 200 buildings with approximately 1-1/2 million square feet of space for warehousing and manufacturing activities. More than 70 businesses and industries are located in the Benicia Industrial Park, including the Exxon Oil and Refining Company which uses not only the outer portion of the 2,400-foot wharf, but also has its own crude oil dock located adjacent to the Benicia-Martinez Bridge.



San Pablo Bay - Carquinez Strait. The refinery at Oleum is typical of the petroleum industry's water-oriented facilities along the upper bays.



Mare Island Strait. Mare Island Naval Shipyard is located on the western side of the strait. Five waterfront facilities are sited along the eastern side including a potential new port development site (right side of photograph).



Port of Benicia. Serving a large industrial park, the port lies on the northern shore of Carquinez Strait and Suisun Bay.

b. Planned and potential port/waterfront facilities. At the present time there are no existing plans for new facilities to be constructed on San Pablo Bay or Carquinez and Mare Island Straits. A feasibility study for a marine cargo terminal has recently been completed by a consulting engineering firm for the city of Vallejo. The potential development (described on inventory form number 8) would possibly include a bulk terminal facility and a container/break-bulk facility. The Port of Benicia property has the potential development possibilities shown on Plate No. 28 to accommodate the following types of usages: container, import/export auto, break-bulk, dry bulk, petroleum and petroleum products. In the area covered by this section of this report there are six existing waterfront facilities which are not being used. These six waterfront sites are candidates for potential development, including petroleum refining and related industries.

c. Railroad service.

(1) Two line-haul railroads, the Atchison, Topeka and Santa Fe Railway and the Southern Pacific Company (Southern Pacific Lines), serve the waterfront facilities located along San Pablo Bay and the Mare Island and Carquinez Straits.

(2) The Southern Pacific Company operates a storage yard located at South Vallejo having a normal operating capacity for 120 cars, and an assembly and classification yard at Martinez with a normal operating capacity for 357 cars. These yards capacities are based on cars with a length of 49 feet.

d. Existing and planned channels.

(1) The existing project, shown on Plate 29, provides for dredging a channel 600 feet wide, 45 feet deep, and about 11 miles long in San Pablo Bay across Pinole Shoal with a maneuvering area adjacent to Oleum Pier at the mouth of Carquinez Strait, 45 feet deep; a channel 700 feet wide, 30 feet deep, through Mare Island Strait, flaring to a turning basin generally 1,000 feet wide from former dike No. 6 to within 75 feet southerly from the causeway between Vallejo and Mare Island, 30 feet deep except at the northerly end where the project depth is 26 feet; for dredging two approach areas 20 feet deep to the waterfronts at Vallejo and South Vallejo, and for maintenance of two approach areas to Navy yard piers at the southern end of Mare Island.

(2) The Pinole Shoal Channel, 600 feet wide, 35 feet deep and about 8 miles long, and the channel and turning basin in Mare Island Strait were completed in 1943 and are under maintenance. Channel improvements to be completed consist of lengthening and deepening Pinole Shoal Channel to 45 feet and dredging the maneuvering area adjacent to Oleum Pier (authorized as part of the San Francisco Bay to Stockton Navigation Channels). Dredging of the two approach areas to Vallejo and South Vallejo is considered to be inactive.

LIST OF PIERS, WHARVES, AND DOCKS AT THE WATERFRONT FACILITIES
ON SAN PABLO BAY, CARQUINEZ AND MARE ISLAND STRAITS, CALIFORNIA

Ref	Facilities	Page
1	Bethlehem Steel Company	272
2	Hercules Inc. Wharf	273
3	Sequoia Refining Corporation Wharf	274
4	Union Oil Company of California, Oleum Refinery Wharf	275
5	American Smelting and Refining Company	276
6	Sperry Flour Mill Vallejo Wharf	277
7	Basalt Rock Company Wharf	278
8	City of Vallejo Mooring	279
9	Mare Island Ferry Slip	280
10	City of Vallejo Mooring and Marina	282
11	California Maritime Academy Mooring Wharf	283
12	Dowrelia's Boat Works Dock	284
13	Contractor's Mooring	285
14	California and Hawaiian Sugar Company Berths 1, 2, and 3	286
15	Benicia Ferry Slip and Dock	287
16	Yuba Manufacturing Division Dock	288
17	Port of Benicia Wharf	289
17A	Benicia Port Terminal Company Dock	290
18	Humble Oil and Refinery Company Crude Dock	291
19	Phillips Petroleum Company, Port Costa Wharf	292
20	Ozol Oil Wharf	293
21	Martinez Municipal Pier	294
22	Shell Oil Company Martinez Refinery Wharf	295
23	Phillips Petroleum Company, Amoco Wharf, Western Berth	296
24	Phillips Petroleum Company, Amoco Wharf Eastern Berth	298
25	Phillips Petroleum Company, Avon Refinery Tanker Wharf	299
26	Phillips Petroleum Company, Avon Refinery Barge Wharf	301

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(1)		
Name	Bethlehem Steel Company		
Location on Waterfront	Pinole Point, Contra Costa County, California		
Owned by	Bethlehem Steel Company		
Operated by	Not operated		
Purpose for which Used	Not used		
Type of Construction	Timber pile, timber - decked, L-shaped wharf, with 1,200-by 20 - foot approach; row of mooring dolphins along east side. Constructed about 1925.		
Description	Face (feet)	West side (feet)	East side (feet)
Dimensions	140	20	20
Depth Alongside at MLLW	4	4	4
Usable Berthing Space	110, inner face		220 w/dolph.
Width of Apron	4		
Height of Deck above MLLW	-		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	One - timber frame, metal covered; wooden floor		
Number and Type of Construction	110 + 40 by 15		
Length and Width (Feet)	-		
Height Inside (Feet)	-		
Floor Area for Cargo (Sq. Ft.)	2,250		
Load Capacity per Sq.Ft. (Lbs.)	-		
Cargo Doors	Barge - loading doors along sides		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Narrow -gauge railway track extends full length of approach; connects with storage areas located in rear.		
Pipelines	None		
Water Supply and Waste Treatment Facilities	One 2-inch line (water supply)		
(Available to Vessels)			
Railway Connections	Southern Pacific Company's tracks connect with and serve trackage located in rear.		
Highway Connections	Via private drive, Atlas Road (asphalt-12 feet wide) to San Pablo Avenue to U.S. Highway No. 80.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Hand extinguishers and watchmen.		
Remarks	Property for sale.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(2)																																																																																																																												
Name	Hercules Inc. Wharf																																																																																																																												
Location on Waterfront	Hercules, between Pinole Point and Davis Point, Contra Costa County, California																																																																																																																												
Owned by	Hercules Inc.																																																																																																																												
Operated by	Not operated																																																																																																																												
Purpose for which Used	Not used																																																																																																																												
Type of Construction	Timber pile, timber -decked, offshore wharf, with 800 - by 15-foot approach which curves to connect with eastern side of wharf. Constructed about 1920 (See Remarks)																																																																																																																												
Description	<table border="1"> <thead> <tr> <th></th> <th>Outer face (feet)</th> <th>Inner face (feet)</th> <th>West side (feet)</th> </tr> </thead> <tbody> <tr> <td>Dimensions</td> <td>250</td> <td>250</td> <td>20</td> </tr> <tr> <td>Depth Alongside at MLLW</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Usable Berthing Space</td> <td>250</td> <td>250</td> <td>-</td> </tr> <tr> <td>Width of Apron</td> <td>open</td> <td></td> <td></td> </tr> <tr> <td>Height of Deck above MLLW</td> <td>9</td> <td></td> <td></td> </tr> <tr> <td>Load Capacity per Sq. Ft. (Lbs.)</td> <td>-</td> <td></td> <td></td> </tr> <tr> <td>Lighted or Unlighted</td> <td colspan="3">Unlighted</td> </tr> <tr> <td>Storage Space</td> <td colspan="3"></td> </tr> <tr> <td>Covered (Transit Sheds)</td> <td colspan="3">None</td> </tr> <tr> <td>Cargo Type (Bulk, Container, Etc.)</td> <td colspan="3"></td> </tr> <tr> <td>Number and Type of Construction</td> <td colspan="3">-</td> </tr> <tr> <td>Length and Width (Feet)</td> <td colspan="3">-</td> </tr> <tr> <td>Height Inside (Feet)</td> <td colspan="3">-</td> </tr> <tr> <td>Floor Area for Cargo (Sq. Ft.)</td> <td colspan="3">-</td> </tr> <tr> <td>Load Capacity per Sq.Ft. (Lbs.)</td> <td colspan="3">-</td> </tr> <tr> <td>Cargo Doors</td> <td colspan="3">-</td> </tr> <tr> <td>Open</td> <td colspan="3">-</td> </tr> <tr> <td>Cargo Type</td> <td colspan="3"></td> </tr> <tr> <td>Area (Acres)</td> <td colspan="3">-</td> </tr> <tr> <td>Surfacing Type</td> <td colspan="3">-</td> </tr> <tr> <td>Tank (Other than Petroleum)</td> <td colspan="3">-</td> </tr> <tr> <td>Mechanical Handling Facilities</td> <td colspan="3">None</td> </tr> <tr> <td>Pipelines</td> <td colspan="3">None</td> </tr> <tr> <td>Water Supply and Waste Treatment Facilities</td> <td colspan="3">None</td> </tr> <tr> <td>(Available to Vessels)</td> <td colspan="3"></td> </tr> <tr> <td>Railway Connections</td> <td colspan="3">Southern Pacific Company's tracks serve plant in rear. The Atchison, Topeka and Santa Fe Railroad tracks extend through rear of plant property.</td> </tr> <tr> <td>Highway Connections</td> <td colspan="3">Via Railroad Avenue (marginal, access) and Tennent Avenue (paved, 25 feet wide) to U.S. Highway No. 80</td> </tr> <tr> <td>Electric Current (Available to Vessels)</td> <td colspan="3">None</td> </tr> <tr> <td>Fire Protection (Other than City)</td> <td colspan="3">None at wharf; pumps and equipment located at plant in rear</td> </tr> <tr> <td>Remarks</td> <td colspan="3">Approach to wharf not usable. Located about 1,000 yards southwest is an 800 - foot-long water intake structure extending from shore. This structure is owned by Hercules Inc. It was formerly known as the Nitro Dock and had been used for loading barges with explosives.</td> </tr> </tbody></table>		Outer face (feet)	Inner face (feet)	West side (feet)	Dimensions	250	250	20	Depth Alongside at MLLW	5	5	5	Usable Berthing Space	250	250	-	Width of Apron	open			Height of Deck above MLLW	9			Load Capacity per Sq. Ft. (Lbs.)	-			Lighted or Unlighted	Unlighted			Storage Space				Covered (Transit Sheds)	None			Cargo Type (Bulk, Container, Etc.)				Number and Type of Construction	-			Length and Width (Feet)	-			Height Inside (Feet)	-			Floor Area for Cargo (Sq. Ft.)	-			Load Capacity per Sq.Ft. (Lbs.)	-			Cargo Doors	-			Open	-			Cargo Type				Area (Acres)	-			Surfacing Type	-			Tank (Other than Petroleum)	-			Mechanical Handling Facilities	None			Pipelines	None			Water Supply and Waste Treatment Facilities	None			(Available to Vessels)				Railway Connections	Southern Pacific Company's tracks serve plant in rear. The Atchison, Topeka and Santa Fe Railroad tracks extend through rear of plant property.			Highway Connections	Via Railroad Avenue (marginal, access) and Tennent Avenue (paved, 25 feet wide) to U.S. Highway No. 80			Electric Current (Available to Vessels)	None			Fire Protection (Other than City)	None at wharf; pumps and equipment located at plant in rear			Remarks	Approach to wharf not usable. Located about 1,000 yards southwest is an 800 - foot-long water intake structure extending from shore. This structure is owned by Hercules Inc. It was formerly known as the Nitro Dock and had been used for loading barges with explosives.		
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PIERS, WHARVES, AND DOCKS

Reference Number on Map	(3)		
Name	Sequoia Refining Corp. Wharf		
Location on Waterfront	Approximately one-half mile northwest of Davis Point.		
Owned by	Sequoia		
Operated by	Sequoia		
Purpose for which Used	Receipt and shipment of petroleum products. (Refinery does not produce or provide bunker fuel).		
Type of Construction	Precast, concrete pile; poured concrete-decked offshore wharf w/1,200 x 40-ft. causeway approach with underground pipelines (see pipelines below). Center section 60 x 160 ft. w/berthing dolphins. On each side of center section is 25 x 50 ft. breasting dolphins. Constructed in 1967.		
Description	Face (feet)	Shoreside (feet)	
Dimensions	160	160	
Depth Alongside at MLLW	35	28	
Usable Berthing Space	Approx. 900 w/dolphins	275	
Width of Apron	Open	Open	
Height of Deck above MLLW	20	20	
Load Capacity per Sq. Ft. (Lbs.)	1,000	1,000	
Lighted or Unlighted	Lighted	Lighted	
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two fixed electrical cranes with swing booms to handle hose lines along face of wharf. Small davit type electric crane to handle ship's stores and hose lines.		
Pipelines	All underwater to face of wharf. One 24" to receive crude; two 8", one 10", one 6" to load gasoline, diesel and other petroleum products.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	ERMUD water available at dock from 2" line. No waste treatment facility.		
Railway Connections	Southern Pacific Company's tracks pass under dock approach at rear.		
Highway Connections	Via private drive off U.S. Interstate Highway 80, asphalt, over 25' wide.		
Electric Current (Available to Vessels)	12,000 volts with transformer at face of wharf; 110-220 A.C.		
Fire Protection (Other than City)	Fire extinguishers, electric pump at face of wharf, watchmen.		
Remarks	Sequoia is wholly owned by Gulf Oil Corp. Shoreward side of wharf serves barge traffic for transport of gasoline.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
(3)	Sequoia Refining Corp.		
	Crude Oil	4	1,080,000
	Diesel Fuel	4	110,000
	Gasoline	10	250,000
Total		18	1,440,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(4)		
Name	Union Oil Company of California Oleum Refinery Wharf		
Location on Waterfront	Davis Point, Oleum, California		
Owned by	Union Oil Company of California		
Operated by	Union Oil Company of California		
Purpose for which Used	Receipt and shipment of petroleum products; bunkering vessels.		
Type of Construction	Precast, concrete pile; poured concrete-decked, offshore wharf w/1,700 - by 77-ft. causeway approach w/pipeline trestle; timber fender system w/steel springs at tanker berths along face; timber fender system w/rubber blocks at barge berths at rear of face. W and E sides of wharf are		
Description	136 ft. long. Constructed 1954.		
	Face (feet)	Rear of face west section (feet)	Rear of face east section (feet)
Dimensions	1,250	622	520
Depth Alongside at MLLW	38-35	25-20	25-20
Usable Berthing Space	1,250	622	520
Width of Apron	65	25	25
Height of Deck above MLLW	17	17	17
Load Capacity per Sq. Ft. (Lbs.)	300	300	300
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Fixed, electric cranes with swing booms handle hose lines at 2 loading stations along face of wharf; a rubber-tired, tractor crane with a short boom handles hose at barge berths along rear of face.		
Pipelines	See remarks		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Water supply through one 4-inch line. No waste treatment facilities for vessels.		
Railway Connections	Southern Pacific Company's tracks pass through tunnel at rear of approach and serve refinery.		
Highway Connections	Via private drive off U.S. Interstate Highway No. 80.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Pumps, lines, monitor nozzles, hydrants, hose, hand extinguishers, and watchmen.		
Remarks	Two 16-, four 12-, four 10-, and six 6-inch pipelines extend from wharf to numerous storage tanks located at company-owned Oleum Refinery in rear; crude oil is received at refinery by pipeline from California fields. Refinery connects with Southern Pacific Pipe Lines, Inc. (a common carrier, petroleum products pipeline), and also connects by pipeline with company-owned tanks located at Richmond, Calif. terminal.		

OIL-HANDLING FACILITIES

Reference
Number
On Map

Operator and/or user

Number

Capacity
(barrels)

(4)

Union Oil Company

Crude Oil

7

1,067,000

Product

38

2,800,000

Facility is connected with company-
owned refinery at Oleum which has
the above tankage.

Total

45

3,867,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(5)		
Name	American Smelting and Refining Company		
Location on Waterfront	Selby, California, between Davis Point and Crockett		
Owned by	American Smelting and Refining Company		
Operated by	Not operated		
Purpose for which Used	Not used		
Type of Construction	Timber pile with asphalt-surfaced timber deck; craneway supported on precast, prestressed concrete piles. Constructed about 1930.		
Description	Face (feet)	East side (feet)	
Dimensions	545	100	
Depth Alongside at MLLW	35-32	-	
Usable Berthing Space	545	-	
Width of Apron	Open		
Height of Deck above MLLW	9		
Load Capacity per Sq. Ft. (Lbs.)	400		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None		
Mechanical Handling Facilities	Two electric, traveling, straight line, full-portal, gantry cranes, each with 70-foot, hinged, cantilevered boom having 57-foot outboard reach, cranes are equipped with 1 1/2 cu. yd. clamshell buckets and a receiving hopper which serves a 24-inch electric belt conveyor system extending from wharf to ore-smelter refinery located in rear. (See remarks)		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Water through 1-inch line.		
Railway Connections	Plant trackage in rear connects with tracks of Southern Pacific Company.		
Highway Connections	Via plant drive through Tormey residential community, from U.S. Interstate Highway No. 80.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Plant equipment, pumps, hydrants and watchmen.		
Remarks	Smelter is closed down. Property is for sale.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(6)		
Name	Sperry Flour Mill Vallejo Wharf		
Location on Waterfront	Vallejo, California, eastern side of Mare Island Strait, 0.6 mile above entrance from Carquinez Strait.		
Owned by	General Mills, Inc., Sperry Division		
Operated by	Not operated		
Purpose for which Used	Not used		
Type of Construction s	Timber pile; southern section: timber decked; northern section : 7-foot-wide catwalk; timber fender piles along face. Date of construction unknown.		
Description	Face (feet)	South side (feet)	North side (feet)
Dimensions	425	100	100
Depth Alongside at MLLW	30 - 28	-	-
Usable Berthing Space	425	-	-
Width of Apron	Open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	-		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	Trackage serving grain elevator at rear connects with tracks of Southern Pacific Company.		
Highway Connections	Via Derr Ave. (marginal and access), asphalt, 15 feet wide; from foot of Lemon Street, asphalt, 25 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Plant equipment, watchmen and hydrant.		
Remarks	Grain elevator at rear has storage capacity for 1,000,000 bushels; receives grain by rail and truck.		

PIERS, WHARVES, AND DOCKS			
Reference Number on Map	(7)		
Name	Basalt Rock Company Wharf		
Location on Waterfront	Vallejo, California, eastern side of Mare Island Strait, foot of Chestnut Street.		
Owned by	Basalt Rock Company		
Operated by	Shell Oil Company and Basalt Rock Company		
Purpose for which Used	Not used		
Type of Construction	Timber pile, timber-decked wharf, dolphins and piles.		
Description	Face (feet)	South side (feet)	
Dimensions	150	135	
Depth Alongside at MLLW	8	-	
Usable Berthing Space	160 w/dolp	-	
Width of Apron	Open		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	150		
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines			
Water Supply and Waste Treatment Facilities	None.		
Railway Connections	One surface track serves tank car loading rack in rear; connects with tracks of Southern Pacific Company.		
Highway Connections	Via foot of Chestnut Street (approach and access), asphalt, 35 and 20 feet wide, from Sonoma Blvd.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks	Wharf is mostly torn down.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(8)		
Name	City of Vallejo Mooring		
Location on Waterfront	Vallejo, California, between foot of Chestnut and Maryland Streets.		
Owned by	City of Vallejo.		
Operated by	City of Vallejo		
Purpose for which Used	Potential new port development site (Bulk terminal and container/breakbulk terminal).		
Type of Construction	Marginal row of timber pile mooring dolphins; two timber pile, timber-decked, finger piers serve as approaches from shore, each 450 feet long. Constructed approx. 1930.		
Description	Mooring dolphins (feet)		
Dimensions	2,000 approx.		
Depth Alongside at MLLW	30		
Usable Berthing Space	2,000 approx.		
Width of Apron	Open		
Height of Deck above MLLW	-		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	-		
Storage Space	None		
Covered (Transit Sheds)	None		
Cargo type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open	-		
Cargo type	49.0		
Area (Acres)			
Surfacing Type	Various (asphaltic concrete, concrete and unpaved)		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities	8-inch city water main No waste treatment facilities		
(Available to Vessels) Railway Connections			
Highway Connections	Via foot of various city streets, asphalt, 20-40 foot width connecting to U.S. Highways No. 80 and NO. 680		
Electric Current (Available to Vessels)	12 - KV overhead power line in vicinity of Ryder Street		
Fire Protection (Other than City)	None		
Remarks	Sporadically used by contractors.		

(8 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map			
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	system in gallery extending along roof of building on wharf to 80-foot-diameter, steel, storage tanks in rear, total capacity 100,000 tons.		
Pipelines	extend from connections on wharf to storage tanks in rear.		
Water Supply and Waste Treatment Facilities			
Railway Connections			
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
8	California and Hawaiian Sugar Company (fuel oil storage)	1	25,500
Total		1	25,500

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(9)		
Name	Mare Island Ferry Slip		
Location on Waterfront	Vallejo California, eastern side of Mare Island Strait, 0.2 mile north of Maine Street.		
Owned by	Mare Island Ferry, Inc.		
Operated by	do.		
Purpose for which Used	Landing and mooring passenger ferry vessels operating between Vallejo and Mare Island.		
Type of Construction	Concrete retaining wall, solid fill along shore fronted by landing float with 15 by 8-foot ramp from 140 by 30-foot timber pile, timber-decked approach. Constructed approx. 1966.		
Description	Side of float (feet)	Lower end (feet)	Upper end (feet)
Dimensions	130	15	15
Depth Alongside at MLLW	10	-	-
Usable Berthing Space	130	-	-
Width of Apron	Open		
Height of Deck above MLLW	2, float.		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open	-		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	Potable city water supply.		
(Available to Vessels)			
Railway Connections	None.		
Highway Connections	Via Mare Island Boulevard		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Hand extinguishers and hose.		
Remarks	Paved, automobile parking area in rear for parking ferry passengers' automobiles.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(10)		
Name	City of Vallejo Mooring and Marina		
Location on Waterfront	Vallejo, California between foot of Florida Street and Mare Island Causeway.		
Owned by	City of Vallejo.		
Operated by	City of Vallejo.		
Purpose for which Used	Mooring small boats, barges and hoisting equipment.		
Type of Construction	Row of timber pile mooring dolphins along channel and covered and open styrafoam and wood berths. Constructed approx. 1963.		
Description	Mooring dolphins (feet)		
Dimensions	2,400 approx.		
Depth Alongside at MLLW	30-20		
Usable Berthing Space	2,400 approx.		
Width of Apron	-		
Height of Deck above MLLW	-		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	-		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open	-		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two-ton crane on revetment.		
Pipelines	None		
Water Supply and Waste Treatment Facilities	Potable city water supply		
(Available to Vessels)			
Railway Connections	None		
Highway Connections	Via Mare Island Boulevard.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	2" standpipes and portable extinguishers.		
Remarks	Small boat storage and repair sheds.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(11)		
Name	California Maritime Academy Mooring Wharf		
Location on Waterfront	Vallejo, California northern side of Carquinez Strait at Morrow Bay; west of Carquinez Strait Bridge.		
Owned by	California Maritime Academy		
Operated by	California Maritime Academy		
Purpose for which Used	Mooring maritime academy training vessels.		
Type of Construction	Timber pile, timber-decked, offshore wharf, with 130 by 20 foot approach, forming a 250 by 125 foot mooring basin in rear of wharf face; mooring dolphins at upper end Constructed approx. 1943.		
Description	Face (feet)	Inner side of face (feet)	
Dimensions	275	250	
Depth Alongside at MLLW	25-18	5	
Usable Berthing Space	425 w/dolph.	250	
Width of Apron	Open		
Height of Deck above MLLW	-		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Crane Doors			
Open			
Cargo Type	-		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	Potable city water supply.		
Railway Connections	None		
Highway Connections	Via Academy Road (access and approach), from Sonoma Blvd. (arterial), paved.		
Electric Current (Available to Vessels)	A.C., 220 volt, single-phase		
Fire Protection (Other than City)	Hand extinguishers, waterline, and hose.		
Remarks	Training ship "Golden Bear" moors along face of wharf.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(12)		
Name	Dowrelio's Boat Works Dock.		
Location on Waterfront	Crockett, Calif., southern side of Carquinez Strait, approx 0.1 mile west of Carquinez Bridge.		
Owned by	California and Hawaiian Sugar Company.		
Operated by	Dowrelio Boat Works, Inc.		
Purpose for which Used	Mooring small vessels for repair; and mooring company-owned floating equipment.		
Type of Construction	Timber pile, timber-decked wharf with row of timber mooring piles along face; 50-foot-long approach from shore. Constructed 1929.		
Description	Face (feet)		
Dimensions	30		
Depth Alongside at MLLW	8-7		
Usable Berthing Space	30		
Width of Apron	Open		
Height of Deck above MLLW	10		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Partly lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None.		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None.		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 12-ton, gasoline, traveling, revolving crane with 60-foot boom; crane travels on rails extending from face of wharf to shore at rear. Crane used for handling piling from storage area in rear to floating piledriver moored		
Pipelines	at wharf face, and also is equipped with slings for lifting small boats.		
Water Supply and Waste Treatment Facilities	Water through small line and hose.		
(Available to Vessels)			
Railway Connections	Southern Pacific Company tracks in rear.		
Highway Connections	Via road from Dowrelio Drive (marginal), asphalt, 25 feet wide, from foot of Port Street (approach), asphalt, 35 feet wide connects with Interstate 80.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Hand extinguishers, hydrants and hoses.		
Remarks	Operator has machine shop, 2 small marine railways extending into building on shore, a side-haul marine railway, hoisting equipment, and a protected boat basin for mooring recreational craft, small commercial craft, and party fishing boats. An abandoned ferry slip is located at the outer northwest corner of the boat basin.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(13)		
Name	Contractor's Mooring		
Location on Waterfront	Crockett, Calif., southern side of Carquinez Strait, at west side of Carquinez Bridge.		
Owned by	California and Hawaiian Sugar Company.		
Operated by	Various marine construction firms and operators of floating equipment.		
Purpose for which Used	Mooring small vessels and other types of floating equipment.		
Type of Construction	Two parallel, timber pile, timber-decked, finger piers between which lies a 100-by 30-foot slip for mooring barges end-on; an additional 60 feet of berthing space is available along shore at inner end of West pier.		
Description	Constructed in 1952.		
	West pier (feet)	East pier (feet)	
Dimensions	140 by 30	90 by 45	
Depth Alongside at MLLW	10 - 5	10 - 5	
Usable Berthing Space	100, ea. side	100 w/dolph.	
Width of Apron	Open	Open	
Height of Deck above MLLW	12 - 10	12	
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Unlighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None.		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None.		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None.		
Mechanical Handling Facilities	The inner end of the slip is spanned by a structural steel framework supporting hopper bins for loading dry bulk construction materials into barges moored underneath.		
Pipelines	None.		
Water Supply and Waste Treatment Facilities	Water through 2-inch line.		
(Available to Vessels)			
Railway Connections	Southern Pacific Company tracks in rear.		
Highway Connections	Via road from Dowdell Drive from foot of Port Street connects to Interstate 80.		
Electric Current (Available to Vessels)	-		
Fire Protection (Other than City)	-		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(14)		
Name	California and Hawaiian Sugar Company Berths 1, 2 and 3		
Location on Waterfront	Crockett, Calif., southern side of Carquinez Strait, at upstream side of Carquinez Bridge.		
Owned by	California and Hawaiian Sugar Company.		
Operated by	California and Hawaiian Sugar Company.		
Purpose for which Used	Receipt of unrefined sugar and plant supplies including fuel oil; shipment of packaged refined sugar and bulk liquid molasses.		
Type of Construction	Shore wharf-western section: 7-foot-wide timber pile, timber deck; middle section: 40-45-foot-wide timber pile, timber deck; eastern section: 626 feet concrete piles, concrete deck with 100-foot-long catwalk extension to dolphin in line with face.		
Description	Face (feet)	West side (feet)	East side (feet)
Dimensions	2,715	558	50
Depth Alongside at MLLW	45 - 30	-	-
Usable Berthing Space	2,815 w/dolph.	-	-
Width of Apron	7 - 45		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	See Remarks.		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None.		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	100,000 tons cap. (unrefined sugar); molasses storage tanks		
Mechanical Handling Facilities	Unrefined sugar unloaded from holds of vessels by 4 electric traveling, full-portal, gantry cranes, each equipped with boom and a vertical marine leg with attached power shovel; unloading rate 250 tons per hour each. Marine legs on cranes serve an electric belt conveyor (Cont'd on next sheet)		
Pipelines	One 8-inch fuel oil pipeline extends from wharf to one 25, 500-barrel storage tank located in rear of middle portion of wharf. Molasses pipelines (Cont'd on next sheet)		
Water Supply and Waste Treatment Facilities	Through 2 1/2 - inch connections.		
(Available to Vessels)			
Railway Connections	Tracks inside and along rear of plant buildings connect with Southern Pacific Railroad.		
Highway Connections	Via paved streets (marginal, approach, and access), 25 feet wide from Interstate 80.		
Electric Current (Available to Vessels)	-		
Fire Protection (Other than C1 v)	Plant pumps, and sprinkler system in wharf buildings.		
Remarks	Wharf is occupied by a sugar refinery and warehouse buildings for storing packaged sugar. Located at east end of wharf is a small pier used by company-owned tug which also serves as a fireboat.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(15)
Name	Benicia Ferry Slip and Dock
Location on Waterfront	Foot of East Fifth Street, Benicia
Owned by	City of Benicia
Operated by	U.S. Coast Guard
Purpose for which Used	Mooring of U.S. Coast Guard Vessels
Type of Construction	Timber ferry slip with adjustable transfer ramp and timber pile timber-decked approach from shore. Constructed approx. 1966.
Description	One slip (formerly used for ferry service)
Dimensions	
Depth Alongside at MLLW	10 ft.
Usable Berthing Space	120 ft. (property of U.S. Coast Guard)
Width of Apron	30 ft.
Height of Deck above MLLW	9 ft.
Load Capacity per Sq. Ft. (Lbs.)	-
Lighted or Unlighted	Lighted
Storage Space	
Covered (Transit Sheds)	None
Cargo Type (Bulk, Container, Etc.)	
Number and Type of Construction	One (1) Wooden Building 40' x 16'
Length and Width (Feet)	
Height Inside (Feet)	
Floor Area for Cargo (Sq. Ft.)	
Load Capacity per Sq. Ft. (Lbs.)	
Cargo Doors	
Open	
Cargo Type	
Area (Acres)	.15
Surfacing Type	Asphalt
Tank (Other than Petroleum)	-
Mechanical Handling Facilities	None
Pipelines	None
Water Supply and Waste Treatment Facilities (Available to Vessels)	City water supply
Railway Connections	Approach to dock is crossed by a track of Southern Pacific Company.
Highway Connections	Via foot of East 5th Street
Electric Current (Available to Vessels)	A.C., 220 volts, A.C. single-phase
Fire Protection (Other than City)	None
Remarks	

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(16)		
Name	Yuba Manufacturing Division Dock		
Location on Waterfront	Benicia, Calif., northern side of Carquinez Strait, between foot of East 6th, and 7th Streets.		
Owned by	Yuba Manufacturing Division of Yuba Consolidated Industries, Inc.		
Operated by	do.		
Purpose for which Used	Mooring barges and dredges; construction and launching barges; handling heavy lifts including steel fabrications.		
Type of Construction	Timber pile bulkhead with solid fill; bulkhead forms west side of a basin approximately 60 feet wide; bottom of basin has a timber grid designed for a depth of 16 feet below top of bulkhead. Constructed approx. 1954.		
Description	Face of bulkhead (feet)		
Dimensions	250		
Depth Alongside at MLLW	16		
Usable Berthing Space	250		
Width of Apron	Open		
Height of Deck above MLLW	3-4		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	-		
Area (Acres)	32 acres (5 under water)		
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One electric, steel, stiff-leg derrick with 120-foot boom having outboard reach of approximately 100 feet; crane has rated lifting capacity of 125 tons at 64-radius and 100 tons at 70-foot radius.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	One surface track along rear of bulkhead joins additional tracks in open yard and plant; connects with Southern Pacific Company.		
Highway Connections	Via private access drive, unpaved, 10 feet wide, from foot of E. 5th Street.		
Electric Current (Available to Vessels)	A.C. 110 volts, single-phase, 60 cycle; A.C., 220 volts, 3-phase, 60 cycle.		
Fire Protection (Other than City)	Waterlines, hand extinguishers and watchmen.		
Remarks	Property is for sale.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(17)		
Name	Port of Benicia Wharf (former Benicia Arsenal Wharf)		
Location on Waterfront	Benicia, California - northern side Carquinez Strait, approx. 0.5 mile west of the Benicia -Martinez Bridge.		
Owned by	Benicia Industries, Inc.		
Operated by	Benicia Port Terminal Co.		
Purpose for which Used	Marine commerce, viz., imported automobiles, bulk export commodities, and general cargo.		
Type of Construction	Offshore wharf with curved, timber rail trestles extending from shore to east side. East 535-foot portion of wharf: concrete pile, concrete deck; remaining 1,869 feet: timber pile, paved timber deck. Constructed about 1952.		
Description	Face	Rear of Face	West and East Sides
Dimensions	2,474		
Depth Alongside at MLLW	39		
Usable Berthing Space	1,504	Not used	Not used
Width of Apron	56.75 feet		
Height of Deck above MLLW	10.3		
Load Capacity per Sq. Ft. (lbs.)	East 535 feet: 1,000; Remaining 1,869 feet: 500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, etc.)	None *** Approximately 1-1/2 million square feet of		
Number and Type of Construction	in the warehousing is available adjacent to		
Length and Width (Feet)	the wharf.		
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (lbs.)			
Cargo Doors			
Open			
Cargo Type	35,000 sq. ft. of open dock available for ship side storage		
Area (Acres)	30 acres available adjacent to dock		
Surfacing Type	Asphaltic concrete		
Tank (Other than Petroleum)	Silos for petroleum coke - Capacity 27,000 tons		
Mechanical Handling Facilities	Belt conveyor from silos to vessel (Loading speed--1,000 tons per hour)		
Pipelines	None at docks of the Port of Benicia. * Extensive system to Exxon marine facilities.		
Water Supply and Waste Treatment Facilities	Water supply available to vessels thru four inch line. Sewage from dock directed into city system.		
(Available to Vessels)			
Railway Connections	Two, 535 foot connecting tracks along outer side of wharf; tied in with Southern Pacific		
Highway Connections	Ready access to freeways, viz., Interstate 680 and California 21		
Electric Current (Available to Vessels)	AC 110-220-440 three phase, 60 cycle		
Fire Protection (Other than City)	Sprinklers under dock. Fire hydrant on dock - Water supply from city.		
Remarks	*800 ft. at east end leased to Exxon Oil & Refining Company. Various finished product lines serving portion leased to Exxon Oil (See Exxon Report)		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(17A)		
Name	Benicia Port Terminal Company Dock (Outer 1000')		
Location on Waterfront	Approx. 0.5 mile west of Benicia-Martinez Bridge on north side of Carquinez Strait at Benicia, California.		
Owned by	Benicia Industries Corporation		
Operated by	Exxon Oil & Refining Company (Outer 1000')		
Purpose for which Used	Ship petroleum products by ship and barge, receive intermediate gas oil refinery feedstocks by ship, barge.		
Type of Construction	Wooden piles, wooden deck, part paved. Constructed about 1952.		
Description	Face (feet)		
Dimensions *	1,000' x 123'		
Depth Alongside at MLLW	38'		
Usable Berthing Space **	1000'		
Width of Apron	86.75		
Height of Deck above MLLW	14.8 ft.		
Load Capacity per Sq. Ft. (Lbs.)	Approx. 500		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	No areas presently designated for cargo storage.		
Area (Acres)	—		
Surfacing Type	—		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	**	Four 12" x 10" Continental-Emsco marine loading arms for ship loading/unloading.	
	**	Three 6" Continental-Emsco marine loading arms for barge loading/ unloading.	
Pipelines	Petroleum product lines from the Humble Refinery are connected to the marine loading arms.		
Water Supply and Waste Treatment Facilities	2" potable water line served by City of Benicia municipal water system. Toilet discharge is piped to city sewer system.		
(Available to Vessels)			
Railway Connections	Southern Pacific Railway runs along waterfront immediately behind dock. Various spurs available in area.		
Highway Connections	Interstate 680 on/off ramps 1.5 miles away through city of Benicia. California Highway 21 connects with 680, 0.8 miles from above ramps.		
Electric Current (Available to Vessels)	480-volt 3-phase max. 70 KVA power available. 110-volt 1-phase max. 2 KVA power available.		
Fire Protection (Other than City)	2-5000 gpm fire water pumps. One is electric motor driven. The other is diesel engine driven. Four hydrants, five fire monitors, hose reels, various hose connections provided.		
Remarks	* Refers only to that portion operated by Exxon Oil & Refining Company. ** Present arrangements are for simultaneous berthing of one ship and one barge.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
(17A)	Exxon Oil & Refining Company		
	Gasoline	8	687,000
	Jet Fuel	6	502,000
	Diesel Fuel	2	150,000
	Note: Jet fuel storage facilities connected to Southern Pacific Pipe Line Co. lines with two 12 inch pipe lines.		
Total		16	1,339,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(18)		
Name	Exxon Oil & Refining Company Crude Dock		
Location on Waterfront	Immediately east and adjacent to Benicia Port Terminal Company dock on north side of Carquinez Strait but west of Benicia-Martinez Bridge.		
Owned by	Exxon Oil & Refining Company		
Operated by	Exxon Oil & Refining Company		
Purpose for which Used	Receive crude petroleum		
Type of Construction	Pier deck and dolphin decks are cast-in place reinforced concrete directly on the piling. Piles are reinforced concrete filled steel pipe coated with coal tar epoxy. Fender piling is steel H-piles. Constructed 1968.		
Description			
Dimensions	50' x 350' Pier - Four breasting dolphins with power capstans		
Depth Alongside at MLLW	Dredged to 38'		
Usable Berthing Space	Over 1000'		
Width of Apron			
Height of Deck above MLLW	15 feet		
Load Capacity per Sq. Ft. (Lbs.)	More than 100		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	No areas presently designed for cargo storage		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Three 16" continental-Emsco marine loading arms for receiving crude oil from tankers into a 36" line piped to crude storage tanks.		
Pipelines	The 36" receiving line connects to the Southern Pacific Pipeline Company's pipeline traversing the Carquinez Strait		
Water Supply and Waste Treatment Facilities	1-1/2" potable water systems served by City of Benicia municipal water. Toilet discharge is piped to city sewer system		
(Available to Vessels)			
Railway Connections	Southern Pacific Railway runs along waterfront immediately behind dock. Various spurs and sidings are available in immediate area		
Highway Connections	Interstate 680 on/off ramps 1.7 miles away through City of Benicia. California Highway 21 connects with 680, 0.8 miles from above ramps.		
Electric Current (Available to Vessels)	480-volt 3-phase max. 125 KVA power available for emergency. 110-volt 1-phase max. 5 KVA power available.		
Fire Protection (Other than City)	*5000 gpm fire water pump piped to 3 hydrants. Two monitors, hose reels, and other hose connections.		
Remarks	*Fire water system connects to city water.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
(18)	Exxon Oil & Refining Company Crude Oil Note: Crude oil storage facilities connected by 20 inch pipe line to Getty Oil Company line.	6	2,100,000
Total		6	2,100,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(19)		
Name	Phillips Petroleum Co. Port Costa Wharf.		
Location on Waterfront	Southern side Carquinez Strait, approximately 3 nautical miles above Carquinez Bridge. ✓		
Owned by	Phillips Petroleum Company.		
Operated by	Phillips Petroleum Company.		
Purpose for which Used	Shipment of petroleum products including heavy fuel oils; bunkering vessels.		
Type of Construction	Timber pile, timber-decked, offshore wharf with 5 short approaches from shore; timber mooring dolphin at each side in line with face. ✓		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	575	85	70
Depth Alongside at MLLW	45 - 35	-	-
Usable Berthing Space	675 w/ dolph.	-	-
Width of Apron			
Height of Deck above MLLW	13.3		
Load Capacity per Sq. Ft. (Lbs.)	350		
Lighted or Unlighted	Lighted		
Storage Space	None		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Seven pneumatically operated and 2 hand-operated mast and boom derricks on wharf for handling hose.		
Pipelines	See Remarks		
Water Supply and Waste Treatment Facilities	Water through 2-inch line.		
(Available to Vessels)			
Railway Connections	Southern Pacific Railroad Company tracks along shore line in rear.		
Highway Connections	Access to rear of wharf via private road through plant, unpaved, 10 feet wide, from Pomona St. (Crockett-Martinez Hwy) asphalt, 20 feet wide from Interstate 80.		
Electric Current (Available to Vessels)	A.C., 110/220 volts, single-phase 60-cycle; A.C., 440 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Plant pumps and 10,000-bbl. water tank in rear; hydrants, hose, and watchmen.		
Remarks	Two 12-, one 8-, and one 4-inch pipelines extend from wharf to 13 steel storage tanks in rear, total capacity 514,000 barrels. Tanks are connected by pipelines with Avon Oil Refinery, located about 5.5 miles eastward. Wharf also is equipped with one 8-inch ballast line.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
(19)	Phillips Petroleum Co, Port Costa Wharf Note: Tankage used for storage of partially refined products.	13	514,000
Total		13	514,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(20)		
Name	Ozol Oil Wharf.		
Location on Waterfront	Southern side Carquinez Strait, approximately 3.75 nautical miles above Carquinez Bridge at Ozol.		
Owned by	Holly Corporation.		
Operated by	Wade Corporation.		
Purpose for which Used	Receipt and shipment of petroleum products .		
Type of Construction	Marginal, offshore wharf with part timber pile, timber deck and part concrete pile, concrete deck; 850- by 10-foot catwalk approach, and pipeline trestle from shore; concrete mooring dolphins and catwalks at each end of wharf.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	180	30	30
Depth Alongside at MLLW	39	-	-
Usable Berthing Space	180	-	-
Width of Apron	Open		
Height of Deck above MLLW	12 - 14		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Hosehandling cranes.		
Pipelines	Two 20-inch pipelines with several connections on wharf, extend to storage tanks on hills to rear of dock.		
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	Two spur tracks serve tank car loading rack; connect with tracks of Southern Pacific Company.		
Highway Connections	Access to rear of wharf via private road partly paved, 10 feet wide from Pomona Street, from Interstate 80.		
Electric Current (Available to Vessels)	-		
Fire Protection (Other than City)	Chemical cart, hand extinguishers, and watchmen.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(21)		
Name	Martinez Municipal Pier.		
Location on Waterfront	Martinez, Calif., southern side of Carquinez Strait, at foot of N. Court Street.		
Owned by	City of Martinez.		
Operated by	City of Martinez.		
Purpose for which Used	Not used.		
Type of Construction	Timber pile, paved, timber-decked, offshore wharf with 750-by 40-foot approach; one abandoned ferry slip located at west side of wharf. (See Remarks.)		
Description	Face (feet)	Pear of face (feet)	East side (feet)
Dimensions	250	165	45
Depth Alongside at MLLW	25-20	5	20 -5
Usable Berthing Space	250	165	45
Width of Apron	Open		
Height of Deck above MLLW	8		
Load Capacity per Sq. Ft. (Lbs.)	—		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)	None		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)	Possibly some area available depending on finalization of city of Martinez waterfront plan.		
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	Southern Pacific Railroad Company Ozol Yard and tracks located in rear.		
Highway Connections	Via foot of N. Court Street (access) asphalt, 20 feet wide, from foot of Ferry Street (approach), paved, 25 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	—		
Remarks	City of Martinez Small Craft Harbor located adjacent to and east of approach to wharf. Wharf is not safe and is closed to vehicular traffic. Used as fishing pier only. Inoperative ferryboat "Fresno" berthed at unused ferry slip.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(22)		
Name	Shell Oil Co. Martinez Refinery Wharf.		
Location on Waterfront	Martinez, Calif. southern side Carquinez Strait, about 5.2 nautical miles above Carquinez Bridge.		
Owned by	Shell Oil Company		
Operated by	Shell Oil Company		
Purpose for which Used	Receipt of crude oil; receipt and shipment of petroleum products; bunkering vessels.		
Type of Construction	Timber pile, timber-decked, offshore wharf with 2,000 - by 32-foot angular approach and pipeline trestle; catwalks extend from east and west sides to mooring dolphins; timber fender systems with steel coil springs along face of wharf. (see remarks)		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	737	60	60
Depth Alongside at MLLW	42 - 30	-	-
Usable Berthing Space	895 w/ dolph. and	-	-
Width of Apron	open 962 dolph.		
Height of Deck above MLLW	15		
Load Capacity per Sq. Ft. (Lbs.)	p		
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Pneumatically operated, hosehandling cranes with double booms serve face and rear of wharf.		
Pipelines	Six 12-, three 10-, four 8-, two 6-, one 4-, and one 3-inch pipelines extend from wharf to storage tanks located at company-owned Martinez Oil Refinery in rear.		
Water Supply and Waste Treatment Facilities	Water through 1-inch line off 2-inch main line.		
(Available to Vessels)			
Railway Connections	Tracks serving refinery connect with Southern Pacific Company tracks.		
Highway Connections	Via private, concrete overpass and asphalt drive, 20 feet wide, from Escobar Street (marginal), asphalt, 25 feet wide.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Water pumps and lines, hydrants, and watchmen.		
Remarks	Additional 457 feet of berthing space available for barges and tugs serving wharf along rear of west portion of wharf and 400 feet along rear of east portion; water depths range from 20 to 10 feet at M.L.L.W.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
(22)	Shell Oil Company (Martinez Refinery Wharf)		
	Crude Oil Storage	-----	1,245,000
	Product Storage	-----	2,925,000
Total		-----	4,170,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(23)																																																																																																										
Name	Phillips Petroleum Co., Amorce Wharf, Western Berth																																																																																																										
Location on Waterfront	Martinez, Calif., southern side Carquinez Strait, at Suisun Point on western side of Benicia-Martinez Highway Bridge.																																																																																																										
Owned by	Phillips Petroleum Company																																																																																																										
Operated by	Phillips Petroleum Company																																																																																																										
Purpose for which Used	Receipt of residual oils; shipment of petroleum products; bunkering vessels.																																																																																																										
Type of Construction	Timber pile, timber-decked, offshore wharf with 1,500- by 25-foot approach and pipeline trestle; four 17- by 38-foot rectangular, breasting dolphins in line with face, connected by catwalks extending from sides. (see remarks)																																																																																																										
Description	<table border="1"> <thead> <tr> <th></th> <th>Face (feet)</th> <th>Lower side (feet)</th> <th>Upper side (feet)</th> </tr> </thead> <tbody> <tr> <td>Dimensions</td> <td>74.6</td> <td>38.3</td> <td>38.3</td> </tr> <tr> <td>Depth Alongside at MLLW</td> <td>42-37</td> <td>-</td> <td>-</td> </tr> <tr> <td>Usable Berthing Space</td> <td>281 w/dolph.</td> <td>-</td> <td>-</td> </tr> <tr> <td>Width of Apron</td> <td>Open</td> <td></td> <td></td> </tr> <tr> <td>Height of Deck above MLLW</td> <td>12</td> <td></td> <td></td> </tr> <tr> <td>Load Capacity per Sq. Ft. (Lbs.)</td> <td>200</td> <td></td> <td></td> </tr> <tr> <td>Lighted or Unlighted</td> <td>Lighted</td> <td></td> <td></td> </tr> <tr> <td>Storage Space</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Covered (Transit Sheds)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cargo Type (Bulk, Container, Etc.)</td> <td>None</td> <td></td> <td></td> </tr> <tr> <td>Number and Type of Construction</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Length and Width (Feet)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Height Inside (Feet)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Floor Area for Cargo (Sq. Ft.)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Load Capacity per Sq.Ft. (Lbs.)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cargo Doors</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Open</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cargo Type</td> <td>None</td> <td></td> <td></td> </tr> <tr> <td>Area (Acres)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Surfacing Type</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Tank (Other than Petroleum)</td> <td>None</td> <td></td> <td></td> </tr> <tr> <td>Mechanical Handling Facilities</td> <td>Pneumatically and hand-operated, hosehandling cranes located on wharf.</td> </tr> <tr> <td>Pipelines</td> <td>Two 12-, two 10-, four 8-, and one 6-inch pipelines extend from wharf to 19 steel storage tanks in rear, total capacity (Cont'd on next sheet)</td> </tr> <tr> <td>Water Supply and Waste Treatment Facilities</td> <td>Water through 2-inch connections from 3-inch line.</td> </tr> <tr> <td>(Available to Vessels)</td> <td></td> </tr> <tr> <td>Railway Connections</td> <td>Southern Pacific Company tracks in rear extend to railroad bridge across Carquinez Strait at entrance to Suisun Bay.</td> </tr> <tr> <td>Highway Connections</td> <td>Via private drive(access) unpaved, 10 feet wide and paved, 15 feet wide from Escobar Street (marginal) 25 feet wide.</td> </tr> <tr> <td>Electric Current (Available to Vessels)</td> <td>A.C., 110/220 volts, single-phase, 60-cycle; A.C., 440 volts 3-phase, 60-cycle.</td> </tr> <tr> <td>Fire Protection (Other than City)</td> <td>Water pumps and lines, hydrants and watchmen.</td> </tr> <tr> <td>Remarks</td> <td>Face of wharf and breasting dolphins are in line with adjacent, company-owned Eastern Berth Wharf and breasting dolphins (Ref. No. 24) which provide 930 feet of continuous berthing.</td> </tr> </tbody></table>		Face (feet)	Lower side (feet)	Upper side (feet)	Dimensions	74.6	38.3	38.3	Depth Alongside at MLLW	42-37	-	-	Usable Berthing Space	281 w/dolph.	-	-	Width of Apron	Open			Height of Deck above MLLW	12			Load Capacity per Sq. Ft. (Lbs.)	200			Lighted or Unlighted	Lighted			Storage Space				Covered (Transit Sheds)				Cargo Type (Bulk, Container, Etc.)	None			Number and Type of Construction				Length and Width (Feet)				Height Inside (Feet)				Floor Area for Cargo (Sq. Ft.)				Load Capacity per Sq.Ft. (Lbs.)				Cargo Doors				Open				Cargo Type	None			Area (Acres)				Surfacing Type				Tank (Other than Petroleum)	None			Mechanical Handling Facilities	Pneumatically and hand-operated, hosehandling cranes located on wharf.	Pipelines	Two 12-, two 10-, four 8-, and one 6-inch pipelines extend from wharf to 19 steel storage tanks in rear, total capacity (Cont'd on next sheet)	Water Supply and Waste Treatment Facilities	Water through 2-inch connections from 3-inch line.	(Available to Vessels)		Railway Connections	Southern Pacific Company tracks in rear extend to railroad bridge across Carquinez Strait at entrance to Suisun Bay.	Highway Connections	Via private drive(access) unpaved, 10 feet wide and paved, 15 feet wide from Escobar Street (marginal) 25 feet wide.	Electric Current (Available to Vessels)	A.C., 110/220 volts, single-phase, 60-cycle; A.C., 440 volts 3-phase, 60-cycle.	Fire Protection (Other than City)	Water pumps and lines, hydrants and watchmen.	Remarks	Face of wharf and breasting dolphins are in line with adjacent, company-owned Eastern Berth Wharf and breasting dolphins (Ref. No. 24) which provide 930 feet of continuous berthing.
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(23 Cont'd)

PIERS, WHARVES, AND DOCKS

Reference Number on Map			
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines	1,039,000 barrels. Tanks are connected by pipeline with Phillips Petroleum Co. Avon Oil Refinery located about 1.75 miles eastward.		
Water Supply and Waste Treatment Facilities			
Railway Connections			
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
(23)	Phillips Petroleum Company * Includes 284,000 barrels crude storage (serves Ref. CC-13 & CC-14) Tankage connects with Southern Pacific Company pipe line.	19	1,039,000 *
Total		19	1,039,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(24)		
Name	Phillips Petroleum Company, Amorcó Wharf Eastern Berth		
Location on Waterfront	Martínez, Calif., southern side Carquinez Strait, at Suisun Point, western side of Benicia-Martínez Highway Bridge.		
Owned by	Phillips Petroleum Company		
Operated by	Phillips Petroleum Company		
Purpose for which Used	Receipt of crude and residual oils; shipment of petroleum products; bunkering vessels.		
Type of Construction	Timber pile, timber-decked, offshore wharf with one 200- by 10-foot and one 375- by 12-foot approaches extending from and at angle to approach to Western Berth Wharf (Ref. No. 23); six 28- by 38-foot rectangular, timber breasting dolphins and two 38- by 18-foot concrete breasting dolphins		
Description	In line with face:		
	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	76-6	50	50
Depth Alongside at MLLW	44-40	-	-
Usable Berthing Space	512 w/dolph.	-	-
Width of Apron	open		
Height of Deck above MLLW	15		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None		
Mechanical Handling Facilities	Pneumatically and hand-operated, hosehandling cranes located on wharf.		
Pipelines	One 20-inch crude oil pipeline and two 12-, two 10-, four 8-, and two 6-inch pipelines extend from wharf to storage tanks described under Ref. No. 23.		
Water Supply and Waste Treatment Facilities	Water through connections from 3-inch line.		
Railway Connections	Southern Pacific Company tracks in rear extend to railroad bridge across Carquinez Strait at entrance to Suisun Bay.		
Highway Connections	Via public and private roads to shore end of approach, from Escobar St. (marginal), asphalt, 25 feet wide.		
Electric Current (Available to Vessels)	A.C., 110/220 volts, single-phase, 60-cycle; A.C., 440 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Pumps, line, hydrants, and portable equipment.		
Remarks	Breasting dolphins are connected by catwalks extending from sides of wharf. Face of wharf and breasting dolphins are in line with adjacent, company-owned Western Berth and breasting dolphins (Ref. No. 23) which provide 930 feet of continuous berthing.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
(24)	Phillips Petroleum Company *Includes 284,000 barrels crude storage (serves Ref. CC-13 & CC-14) Tankage connects with Southern Pacific Company pipe line.	19	1,039,000*
Total		19	1,039,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(25)		
Name	Phillips Petroleum Company Avon Refinery Tanker Wharf		
Location on Waterfront	Avon, California, southern side of Suisun Bay, 1.5 nautical miles eastward of Benicia-Martinez Highway and railroad bridges.		
Owned by	Phillips Petroleum Company		
Operated by	Phillips Petroleum Company		
Purpose for which Used	Receipt of crude oil; shipment of bulk liquid and packaged petroleum products.		
Type of Construction	Offshore wharf-west section: 355- by 80-ft. concrete pile, concrete deck; middle section: 500- by 70-ft. timber pile, timber deck with 4,176-by 15-ft. approach from shore; east section: 4 rectangular breasting dolphins connected by catwalks, total length 370 ft., (See Remarks).		
Description	Faces of Sections (Feet)		
Dimensions	355 + 500 + 370		
Depth Alongside at MLLW	60 - 46		
Usable Berthing Space	1,325 total		
Width of Apron	Open		
Height of Deck above MLLW	16, concrete section; 11, timber section.		
Load Capacity per Sq. Ft. (Lbs.)	300 concrete section.		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open	None.		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Hand-operated, hosehandling cranes located on wharf.		
Pipelines	One 20- and one 12-inch crude oil pipelines and one 12-, two 10-, two 8-, five 6-, and one 4-inch pipelines extend from wharf to storage tanks. Tract No. 3 is located (See next Sheet)		
Water Supply and Waste Treatment Facilities	Water through connections from 3-inch line.		
Railway Connections	Tracks serving tank car loading racks, warehouses and drumming plant at Tract No. 3 in rear connect with Southern Pacific Company; tracks serving refinery and storage (See next Sheet)		
Highway Connections	No vehicle access to wharf.		
Electric Current (Available to Vessels)	A.C. 110/220 volts, single phase, 60 cycle; A.C., 440 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Plant pumps, lines, hydrants, monitor nozzles on wharf, portable foam equipment, and plant fire department.		
Remarks	West and middle sections of wharf are connected by a 100-foot walkway with a rectangular breasting dolphin located between them in line with faces.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	(25)		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines	between shoreline and highway in rear and has 31 steel storage tanks with a total capacity for 1,125,000 bbl.; additional 68 storage tanks located south of Waterfront Road, total capacity 5,861,000 bbl. Storage tanks are connected with two Southern Pacific Company pipe lines.		
Water Supply and Waste Treatment Facilities			
Railway Connections	tank area south of Waterfront Road connect with Southern Pacific Company and Atchison, Topeka and Santa Fe Railway.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
(25)	Phillips Petroleum Company		
	Tract No. 3	31	1,125,000*
	South of Waterfront Road	68	5,861,000**
	* Includes 29 tanks holding refined products and 2 tanks with total capacity of 186,000 bbls. for storage of crude oil. ** Consists of 2,300,000 bbls. of crude oil storage. Remaining storage is for refined products. Note: All tanks connected with refinery.		
Total		99	6,986,000

PIERS, WHARVES, AND DOCKS

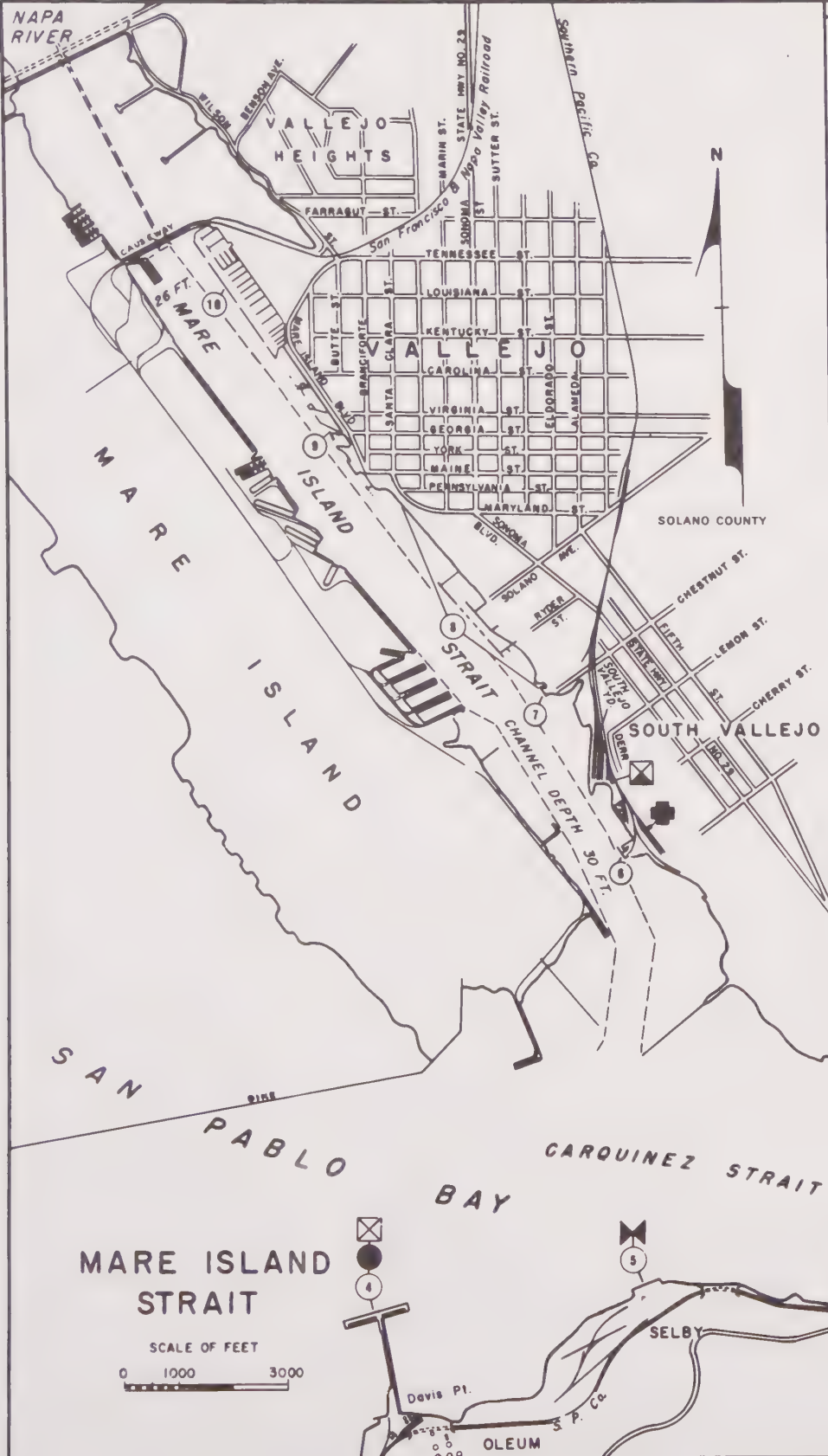
Reference Number on Map	(26)		
Name	Phillips Petroleum Co., Avon Refinery Barge Wharf		
Location on Waterfront	Along rear of Tanker Wharf (Ref. No. 25)		
Owned by	Phillips Petroleum Company		
Operated by	Phillips Petroleum Company		
Purpose for which Used	Shipment of petroleum products by barge; mooring company-owned tank barge; mooring of other tugs and tank barges.		
Type of Construction	West Berths Nos. 6,4, and 2: rear of 355-foot concrete wharf, along 100-foot connecting walkway and portion of timber wharf: East Berth No. 0: rear of 4 rectangular breasting dolphins.		
Description	West Berths Nos. 6,4 & 2 (feet)	East Berths No. 0 (feet)	
Dimensions	850, total	350	
Depth Alongside at MLLW	27 -22	60	
Usable Berthing Space	850, total	350	
Width of Apron	Open	Open	
Height of Deck above MLLW	16, concrete section; 11, timber sections		
Load Capacity per Sq. Ft. (Lbs.)	300, concrete section		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo type (Bulk, Container, Etc.)	None		
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None		
Mechanical Handling Facilities	Hand-operated hosehandling cranes located on wharf.		
Pipelines	Pipeline connects refinery in rear with storage tanks described under Ref. Nos. 19 & 23, Refinery also connects with Southern Pacific Pipe Lines, Inc. (a common carrier petroleum products pipeline)		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Water through connections from 3-inch line.		
Railway Connections	Tracks serving tank car loading racks, warehouses, and drumming plant at Tract No. 3 in rear connect with Southern Pacific Company; tracks serving (Cont'd on next sheet)		
Highway Connections	No vehicle access to wharf.		
Electric Current (Available to Vessels)	A.C. 110/220 volts, single-phase, 60-cycle; A.C., volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Plant pumps, lines, hydrants, monitor nozzles on wharf, portable foam equipment, and plant fire department.		
Remarks	Berths Nos. 6,4, and 2 normally are used for loading tank barges engaged in transporting petroleum products or delivering bunker fuel to vessels at berth in San Francisco Bay area; Berth No. 0 is used for mooring company-owned tank barge "Amorco."		

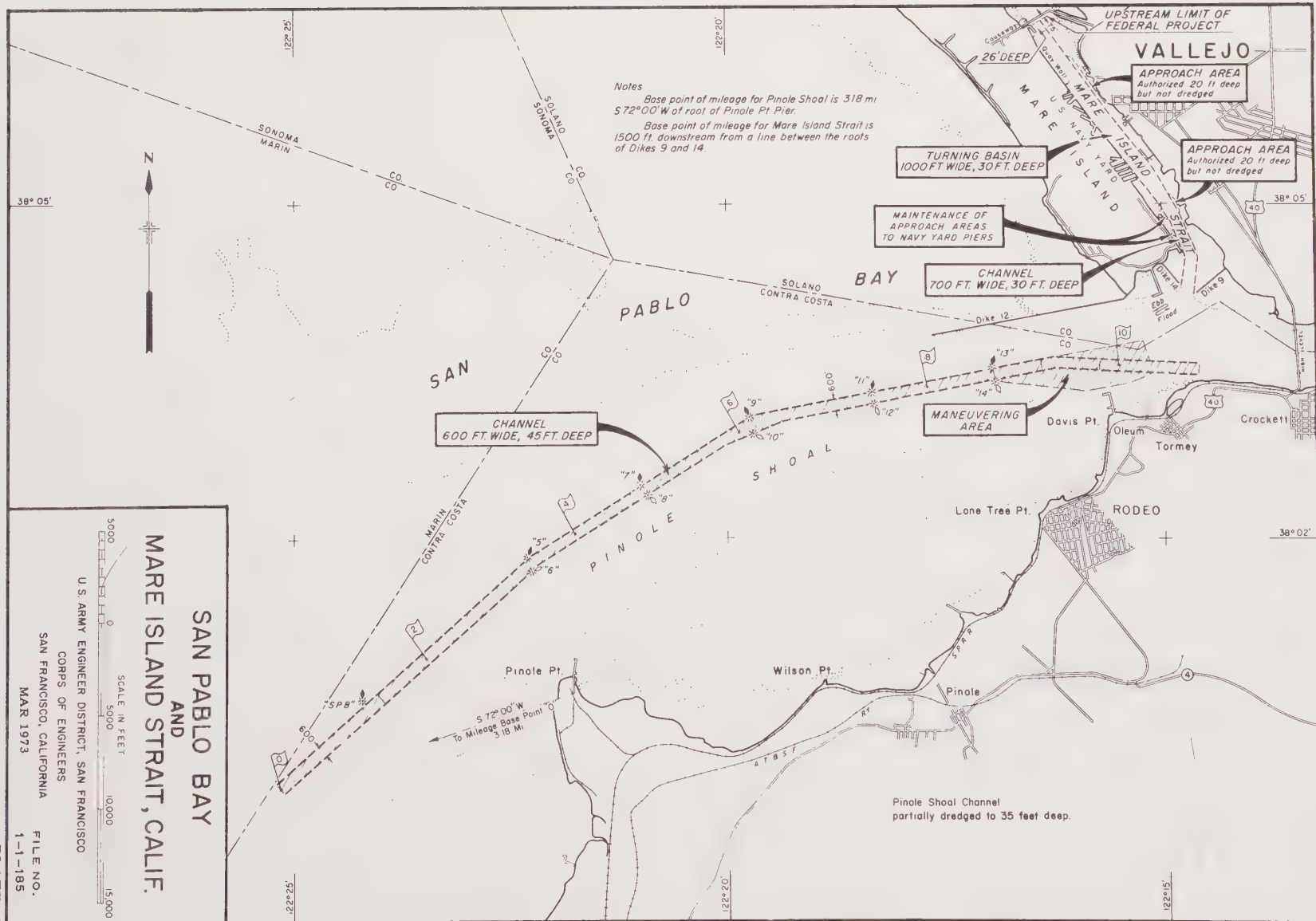
(26 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	(26)		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities			
Railway Connections	refinery and storage tank area south of Waterfront Road connect with Southern Pacific Company and Atchison, Topeka and Santa Fe Railway.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
(26)	Phillips Petroleum Company * Same storage as serves Ref. CC-15	99	6,986,000*
Total		99	6,986,000





15. WATERFRONT FACILITIES ON THE WESTERN SACRAMENTO--SAN JOAQUIN DELTA

a. Existing waterfront facilities. Waterfront facilities in the Western Delta Area are located on the left bank of New York Slough and the San Joaquin River at the vicinity of the cities of Pittsburg and Antioch which are approximately 40 miles inland from the Golden Gate. New York Slough is a distributary of the San Joaquin River and connects the river to Suisun Bay which is a broad, shallow body of water that receives flows from the Sacramento River as well as the San Joaquin River. Port facilities in the Pittsburg-Antioch Area are constructed adjacent to large industrial developments on the north shore of Contra Costa County.

(1) Nine piers, wharves, and docks are described in this report for the Pittsburg-Antioch Area in the Western Delta. Each of these nine facilities is described in detail under a reference number in the table "Piers, Wharves, and Docks" on the following pages. The reference number assigned to each facility is used to designate its location on the accompanying map, Plate 30.

(2) Six facilities are used by oceangoing vessels and three facilities accommodate shallow-draft vessels. Deep-draft facilities service the Pacific Gas and Electric Company Pittsburg Plant, the Diablo Service Corporation (Phillips Petroleum), U.S. Steel Corporation and Dow Chemical Company at Pittsburg, and the Kaiser Gypsum Company and Crown Zellerbach Company at Antioch. Shallow-draft vessels are accommodated at the Fulton Shipyard, Fiberboard Incorporated and the Pacific Gas and Electric Company Plant at Antioch. One of the six deep-draft facilities is used to receive bulk pulp, one to receive raw steel products, one to receive bulk gypsum rock, one to receive and load liquid bulk, one to receive and transship fuel oil, and one to receive and load bulk minerals and liquids. Two of the shallow-draft barge docks are used for receiving fuel oil, and one dock is used in ship repair work.

b. Planned and potential waterfront facilities.

(1) The waterfront facilities of the private companies are considered adequate to meet their present needs. Pacific Gas and Electric Company plans to add one 500,000 bbl fuel oil storage tank at their Pittsburg Plant in 1972 and four more over the next 5 years. Other companies have no present plans to expand their facilities.

(2) The San Francisco Bay Plan, developed by the San Francisco Bay Conservation and Development Commission, indicates that approximately 32 percent of the total projected additional water-oriented industrial acreage needed in the Bay Area is in the vicinity of Collinsville. The National Steel Corporation and the Southern Pacific Transportation Company and other companies have acquired large tracts of land in the Collinsville-Montezuma Slough area as shown on Plate No. 30. The National Steel Corporation site has 3,300 acres. The Sacramento Northern trackage now terminates at Montezuma, slightly more than one mile from the waterfront. Negotiations are being concluded between the Sacramento Northern and Southern Pacific Transportation



Antioch Waterfront. Major industrial plants are served by waterborne commerce in the Western Sacramento-San Joaquin Delta Area.



Collinsville-Montezuma Slough Area. Potential development for this area includes a major power generating plant, two deep-draft berths and one shallow-draft facility.

Company for joint service. The distance to Interstate 80 from this site is about 23 miles. The Pacific Gas and Electric Company is planning to construct a major power generating plant adjacent to the site owned by the National Steel Corporation/Southern Pacific Transportation Company. Very preliminary investigations indicate that it might be feasible to deepen the channel from New York Slough to Collinsville to serve the industrial development. At least two deep-draft berths and one shallow-draft dock would probably be needed for handling bulk raw material imports and general cargo exports.

c. Railroad service.

(1) Two line-haul railroads, the Atchison, Topeka and Santa Fe Railway and the Southern Pacific Company (Southern Pacific Lines), serve the waterfront facilities located along Carquinez Strait.

(2) The Southern Pacific Company operates a storage yard located at South Vallejo having a normal operating capacity for 120 cars, and an assembly and classification yard at Martinez with a normal operating capacity for 357 cars. These yard capacities are based on cars with a length of 49 feet.

(3) The Sacramento Northern Railway maintains trackage through Montezuma, located 2 miles northwest of Collinsville, south to Suisun Bay at Chipps Island. No traffic is handled on this line at present; however, the line would be used if there is industrial development in the Collinsville area.

d. Existing and planned channels.

(1) The existing Suisun Bay Channel project shown on Plate 31, provides for a channel 300 feet wide and 30 feet deep through Bulls Head Point, Point Edith, and Middle Ground Shoals to the mouth of New York Slough, a distance of 13 miles, and for a channel 250 feet wide and 20 feet deep south of Seal Islands from the main channel at Point Edith, mile 3, to the main channel again at Port Chicago, mile 6. All depths refer to mean lower low water. Construction of this project has been completed. Periodic maintenance is performed as required to provide a satisfactory navigation channel.

(2) The Suisun Bay Channel was authorized as a part of the San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) project to be deepened to either a 45-foot depth, contingent on construction of an oil refinery at Pittsburg, or to a depth of 35 feet. Refinery construction plans have been dropped, and the feasibility of lesser depths is under study.

LIST OF PIERS, WHARVES, AND DOCKS AT THE WATERFRONT,
FACILITIES ON THE WESTERN SACRAMENTO-SAN JOAQUIN DELTA, CALIFORNIA

Ref	Facilities	Page
1	PGE - Pittsburg Fuel Pier	309
2	Diablo Service Corporation Wharf	310
3	U.S. Steel Corporation Wharf	311
4	Dow Chemical Company Pier	312
5	Fulton Shipyard Dock	313
6	Kaiser Gypsum Company Pier	314
7	Crown Zellerback Pier	315
8	Fiberboard Barge Dock	316
9	Pacific Gas and Electric Antioch Barge Dock	317

PIERS, WHARVES, AND DOCKS

Reference Number on Map	1		
Name	PGE - Pittsburg Fuel Pier		
Location on Waterfront	Foot of Pittsburg Powerplant		
Owned by	PGE		
Operated by	PGE		
Purpose for which Used	Receiving and transshipping fuel oil		
Type of Construction	Timber piling and wood decking		
Description	Face (feet)		
Dimensions	350		
Depth Alongside at MLLW	35		
Usable Berthing Space	700		
Width of Apron	48		
Height of Deck above MLLW	15.2		
Load Capacity per Sq. Ft. (Lbs.)	(See remarks)		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None		
Number and Type of Construction	Pier was constructed in 1954.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None		
Mechanical Handling Facilities	Hose connections for fuel line		
Pipelines	20-in. fuel line to 7 tanks 4-in. steam line to heat fuel oil, if necessary		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	None		
Highway Connections	None		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	6-in. and 8-in. waterline		
Remarks	Deck load capacity: allowable for light pick-up trucks. Dock is located 626 feet offshore and connected to land by a 10-foot wide pier.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
1	Pacific Gas and Electric Company - Pittsburg	7	1,169,000
Total		7	1,169,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	2		
Name	Diablo Service Corporation Wharf.		
Location on Waterfront	Foot of Harbor Street Pittsburg, California		
Owned by	Phillips Petroleum Corporation		
Operated by	Diablo Service Corporation		
Purpose for which Used	Loading of petroleum coke. Dicharge rutile sand, liquid caustic soda		
Type of Construction	Timber piling and timber deck, Spring loaded fender piles.		
Description	Face (feet)		
Dimensions	647'-2"		
Depth Alongside at MLLW	32		
Usable Berthing Space	891' w/dolphins		
Width of Apron	50		
Height of Deck above MLLW	11' - 10"		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None		
Number and Type of Construction	Wharf was constructed in 1942		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Open bulk		
Area (Acres)	16 acres		
Surfacing Type	Unimproved		
Tank (Other than Petroleum)	1 million gal caustic tank; 67' dia, 47' high, steel, glass lined		
Mechanical Handling Facilities	Bulk-Loader Conveyor belt - 1,500 ton per hour lined Other conveyors available for internal movement. Transfer rate is 650 ton/hr. 5 crawler tractors		
Pipelines	8" diameter stainless steel line from dock to tank		
Water Supply and Waste Treatment Facilities (Available to Vessels)	2-1/2" water supply line to ship		
Railway Connections	Santa Fe and Southern Pacific Railroad serves Pittsburg. ATSF spur line serves bulk storage area.		
Highway Connections	Harbor Street to State Highway 4		
Electric Current (Available to Vessels)	440 volts 3-phase		
Fire Protection (Other than City)	2-1/2" firelines		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	3		
Name	US Steel Corporation Wharf		
Location on Waterfront	North of plant, left bank of New York Slough, Pittsburg		
Owned by	US Steel Corporation Wharf		
Operated by	US Steel Corporation Wharf		
Purpose for which Used	Discharge raw steel products		
Type of Construction	Wood piling, concrete deck		
Description	Face (feet)		
Dimensions	600		
Depth Alongside at MLLW	33		
Usable Berthing Space	600		
Width of Apron	60		
Height of Deck above MLLW	10		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Wharf was constructed in 1947-48.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	2 whirley cranes on tracks, 25-ton capacity		
Pipelines	One 6-in. line for bunkering ships		
Water Supply and Waste Treatment Facilities (Available to Vessels)	One 2-in. water supply line One 2-in. waterline for cleaning vessels.		
Railway Connections	2 sets of tracks within property and connects with ATSF		
Highway Connections	Loveridge Road to State Highway 4		
Electric Current (Available to Vessels)	440 volts 3-phase		
Fire Protection (Other than City)	4" fire line		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	4		
Name	Dow Chemical Company Pier		
Location on Waterfront	Foot of Loveridge Road, Pittsburg		
Owned by	Dow Chemical Company		
Operated by	Dow Chemical Company		
Purpose for which Used	Load and discharge liquid bulk		
Type of Construction	Timber piles with wood catwalk		
Description	Face (feet)		
Dimensions	300		
Depth Alongside at MLLW	30		
Usable Berthing Space	300		
Width of Apron	Catwalk		
Height of Deck above MLLW	12.9		
Load Capacity per Sq. Ft. (Lbs.)	None		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None		
Number and Type of Construction	Pier was constructed in 1941.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	See remarks.		
Mechanical Handling Facilities			
Pipelines	5 - 4 in. for chemicals 2 - 6 in. " " 1 - 8 in. " "		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	None		
Highway Connections	None		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	4-in. waterline		
Remarks	Several storage tanks receive chemicals from ships but also used as transfer tanks for inter-plant redistribution.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	5		
Name	Fulton Shipyard Dock		
Location on Waterfront	Foot of 6th Street, Antioch, California		
Owned by	Fulton Shipyard		
Operated by	Fulton Shipyard		
Purpose for which Used	Ship repairs		
Type of Construction	Timber piles and wood deck.		
Description	West Face (feet)	End Face (feet)	East Face (feet)
Dimensions	240	20	240
Depth Alongside at MLLW	14	14	14
Usable Berthing Space	240	20	240
Width of Apron	14	-	14
Height of Deck above MLLW	12	12	12
Load Capacity per Sq. Ft. (Lbs.)	-	-	-
Lighted or Unlighted	-		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	-		
Number and Type of Construction	Dock was constructed in the 1930's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open	-		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	-		
Mechanical Handling Facilities	1 - 25 ton crawler crane 1 - 15 ton crawler crane 1 - 3 ton forklift 1 - 2 ton rubber tire boom tractor		
Pipelines	None.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	2 inch water supply 3 inch pipe connected to pump for flushing ships.		
Railway Connections	Santa Fe spur line services shipyard.		
Highway Connections	Fulton Shipyard Road connects to Wilbur Ave.		
Electric Current (Available to Vessels)	240 volt AC 120 volt AC 120 volt DC		
Fire Protection (Other than City)	3 inch pipe connected to pump.		
Remarks	Shipyard includes 11.5 acres of backup land facilities.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	6		
Name	Kaiser Gypsum Company Pier		
Location on Waterfront	North of plant, left bank of San Joaquin River, Antioch		
Owned by	Kaiser Gypsum Company		
Operated by	Kaiser Gypsum Company		
Purpose for which Used	Receipt of gypsum rock used in plant production.		
Type of Construction	Timber piles supporting wood decking.		
Description	Face (feet)		
Dimensions	196.5		
Depth Alongside at MLLW	35-32		
Usable Berthing Space	951.5 w/Dolphins		
Width of Apron	25-45		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	--		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Pier was constructed in 1955.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Conveyor belt system from ship to stockpile; transfer rate 1,000 tons per hour.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	2-inch water supply; mechanical dust collector for environmental control.		
Railway Connections	None		
Highway Connections	Company access road.		
Electric Current (Available to Vessels)	440 volts and 110 volts.		
Fire Protection (Other than City)	4-incl line connected to pump at dock.		
Remarks	Hopper for conveyor belt located on dock. 6-foot catwalk extends to dolphins.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	7
Name	Crown Zellerbach Pier.
Location on Waterfront	North of plant on left bank of San Joaquin River, Antioch
Owned by	Crown Zellerbach
Operated by	Crown Zellerbach
Purpose for which Used	Receive bulk pulp
Type of Construction	Concrete deck set on wood pilings
Description	Face (feet)
Dimensions	364
Depth Alongside at MLLW	30
Usable Berthing Space	766 w/dolphins
Width of Apron	42
Height of Deck above MLLW	-
Load Capacity per Sq. Ft. (Lbs.)	500
Lighted or Unlighted	Lighted
Storage Space	
Covered (Transit Sheds)	
Cargo Type (Bulk, Container, Etc.)	None
Number and Type of Construction	Pier was constructed in 1956.
Length and Width (Feet)	
Height Inside (Feet)	
Floor Area for Cargo (Sq. Ft.)	
Load Capacity per Sq. Ft. (Lbs.)	
Cargo Doors	
Open	
Cargo Type	
Area (Acres)	
Surfacing Type	
Tank (Other than Petroleum)	
Mechanical Handling Facilities	Traveling hopper on dock connected to conveyor system, transfer rate is 560 tons of bulk pulp per hour.
Pipelines	
Water Supply and Waste Treatment Facilities (Available to Vessels)	One 2-inch water supply
Railway Connections	None
Highway Connections	None
Electric Current (Available to Vessels)	None
Fire Protection (Other than City)	Four 1-1/2-inch fire hose stations spaced on dock and 3 twin 2-1/2-inch hydrants with hose houses on shore. Underside of deck is sprinklered to protect pilings.
Remarks	Catwalks extend 237 feet westward and 165 feet eastward from dock to dolphins.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	8		
Name	Fiberboard Barge Dock		
Location on Waterfront	North of plant, left bank of San Joaquin River, Antioch		
Owned by	Fiberboard, Inc.		
Operated by	Fiberboard, Inc.		
Purpose for which Used	Unloading of fuel oil.		
Type of Construction	Timber piles supporting wood decking.		
Description	Face (feet)		
Dimensions	15		
Depth Alongside at MLLW	20		
Usable Berthing Space	100 w/dolphins		
Width of Apron	open		
Height of Deck above MLLW	9		
Load Capacity per Sq. Ft. (Lbs.)	--		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was originally constructed in 1949 and rebuilt in 1957		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	One 42-inch water intake line for plant use is buried under pier.		
Water Supply and Waste Treatment Facilities	None		
(Available to Vessels)			
Railway Connections	None		
Highway Connections	None		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Hand extinguishers.		
Remarks			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
8	Fiberboard, Inc.	2	38,000
Total		2	38,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	9		
Name	Pacific Gas and Electric Antioch Barge Dock.		
Location on Waterfront	North of plant on left bank of San Joaquin River, Antioch, California.		
Owned by	Pacific Gas and Electric Company.		
Operated by	Pacific Gas and Electric Company.		
Purpose for which Used	To receive fuel oil for steam plant.		
Type of Construction	Timber pile and wood deck. Four, 9-pile dolphins act as dock fenders.		
Description	Face (feet)		
Dimensions	148		
Depth Alongside at MLLW	19.4		
Usable Berthing Space	148		
Width of Apron	4		
Height of Deck above MLLW	12.9		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space	5 fuel oil tanks @ 121,800 bbls = 609,000 bbls.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in 1964.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open	-		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	-		
Pipelines	1- 12 inch fuel oil line		
Water Supply and Waste Treatment Facilities	-		
(Available to Vessels)			
Railway Connections	-		
Highway Connections	-		
Electric Current (Available to Vessels)	-		
Fire Protection (Other than City)	4 inch pipeline		
Remarks	Dock is located 260 feet offshore and connected by a 4.5-foot catwalk; Barges have 10,000 to 20,000 bbls capacity.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
9	Pacific Gas and Electric Company - Antioch	5	609,000
Total		5	609,000



SAN FRANCISCO BAY AREA IN-DEPTH STUDY CALIFORNIA

PORT FACILITIES INVENTORY

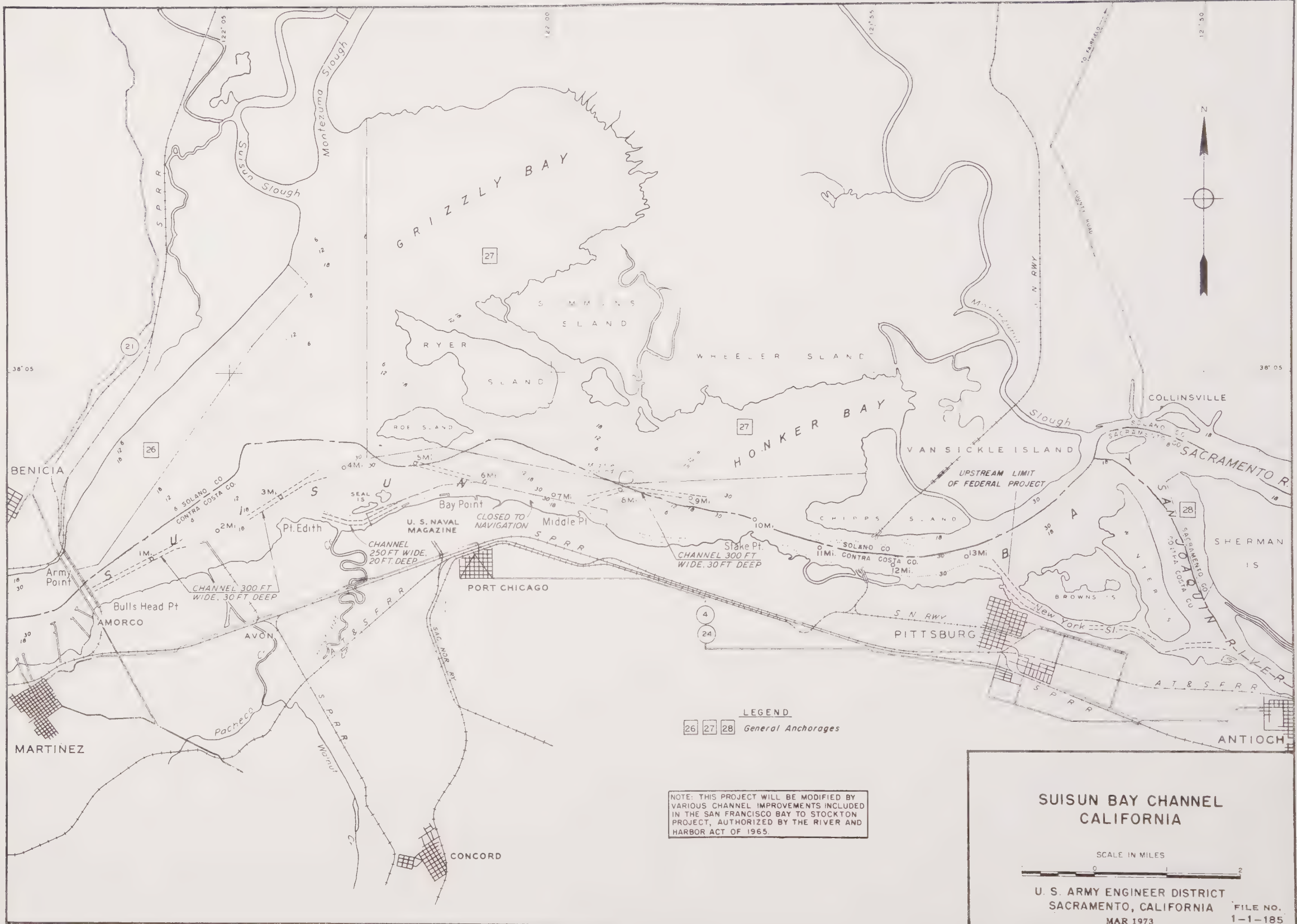
PORT FACILITIES ON THE WESTERN
SACRAMENTO-SAN JOAQUIN DELTA

1 000 0 1 000 2 000 3 000 4 000
SCALE IN MILES

IN SHEETS
U.S. ARMY ENGINEER DISTRICT, SAN FRANCISCO, CORPS OF ENGINEERS
DRAWN
TRACED
CHECKED

SHEET NO.
FILE NO.
1-1-185

DATED MAR 1973



16. PORT OF SACRAMENTO

a. Existing port facilities. The city of Sacramento is located on the left bank of the Sacramento River, about 59 statute miles above the river's mouth and about 107 miles from the Golden Gate Bridge via the river. Oceangoing vessels gain access to the Port of Sacramento from the ocean through the Golden Gate, San Francisco Bay, San Pablo Bay, Carquinez Strait, Suisun Bay, and the Sacramento River Deep Water Ship Channel which terminates at a harbor and turning basin located at West Sacramento. The distance from the Golden Gate Bridge to the port is about 91 statute miles via the deep-draft channel.

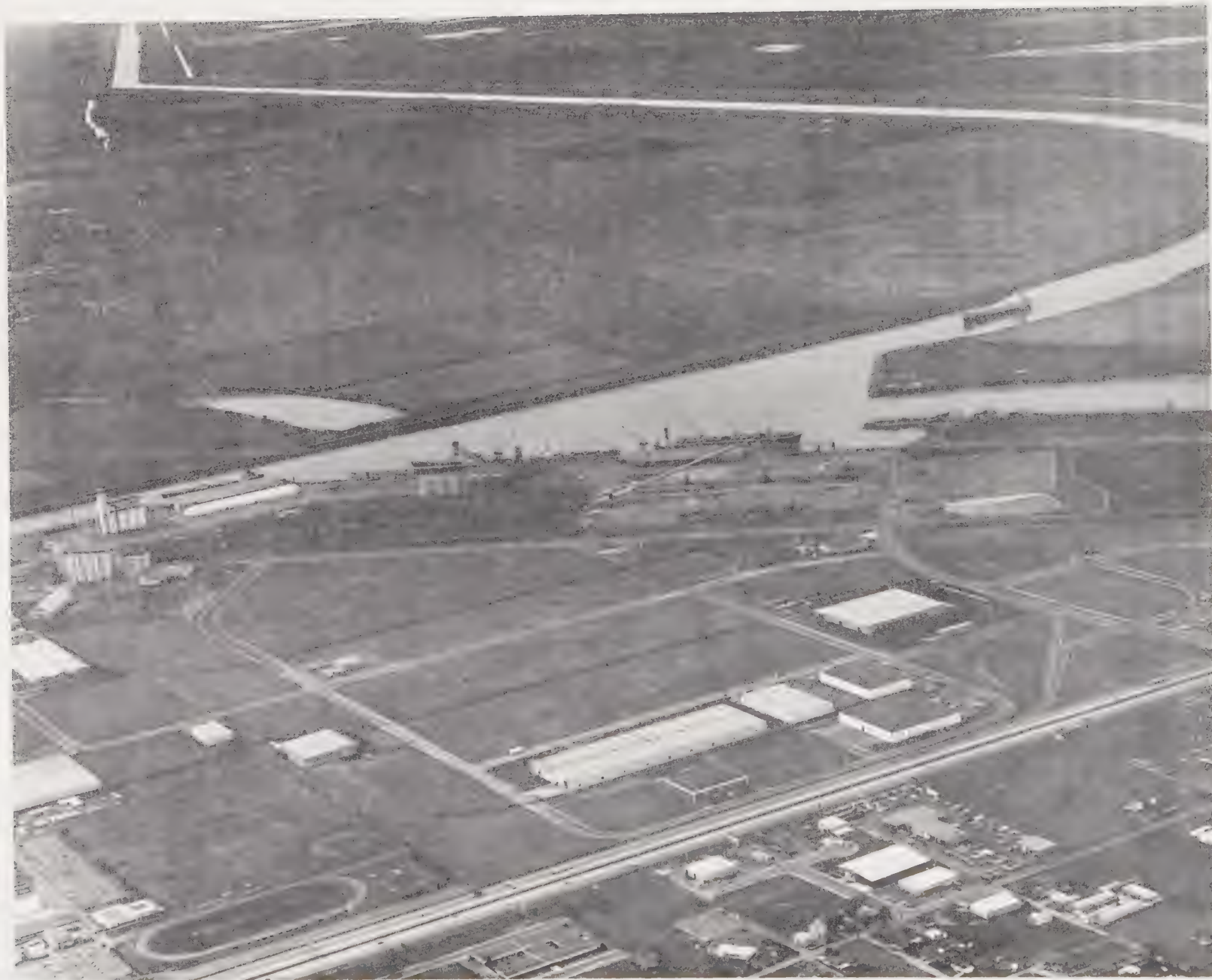
(1) The deep-draft ship channel was formed by widening and deepening existing channels from the mouth of the Sacramento River upstream for 18 miles; the remaining 25 miles to the port is through an excavated canal. A 1.5-mile-long, shallow-draft barge canal with navigation lock connects the deep-draft harbor with the Sacramento River. Shallow-draft vessels and barges navigate the river to Sacramento and upstream to Colusa. The Sacramento River Deep Water Ship Channel also is used for barge shipping because it provides a shorter route than the river, and because the greater depth and slack water provide better navigation conditions than in the Sacramento River.

(2) The port has constructed general cargo, bulk-wood chip, bulk rice, and bulk grain-handling facilities. Private interests own and operate barge facilities located along both banks of the river; these facilities are used for receipt of petroleum products, handling of bulk and sacked rice, and other commodities, and for mooring and servicing barges, towboats, and other types of floating equipment.

(3) Twenty-two piers, wharves, and docks are described in this report for the Port of Sacramento and facilities along the Sacramento River. Each of these twenty-two facilities is described in detail under a reference number in the table "Piers, Wharves, and Docks" on the following pages. The reference number assigned to each facility is used to designate its location on the accompanying map, Plate 32.

(4) Six piers and wharves for oceangoing vessels are located along the northerly side of the deep-water harbor. Sixteen docks are used by shallow-draft vessels or barges and are located along the banks of the Sacramento River near the foot of Linden Road to the mouth of the Natomas Canal.

(5) The six facilities serving oceangoing vessels are owned by the Sacramento-Yolo Port District and have a 30-foot depth along-side at mean lower low water. Three of these facilities, wharves number 2, 6, and 7, are used for handling general cargo in foreign and domestic trade. The following storage areas serve these three facilities: (a) paved, open storage areas totaling 39 acres, used primarily for storage of bulk commodities; (b) two transit sheds with a total of



Port of Sacramento. This port is the farthest inland port in the San Francisco Bay System. The construction of this port included the building of the only navigation lock in California.

172,800 square feet of floor space; and (c) one inflated storage building with 41,600 square feet of storage space. Piers number 1 and 5 are used for shipment of bulk rice and bulk grain, respectively. Wharves number 6 and 7 and pier number 8 are used in shipment of bulk commodities such as wood chips, logs, alfalfa, and copra pellets. Wharves number 6 and 7 are serviced by two 45-ton capacity gantry cranes which are utilized in loading and unloading containers from barges and general cargo from deep-draft vessels.

(6) Six of the sixteen shallow-draft riverfront docks are for receipt of petroleum products; but only one is currently in use. Companies owning the other five docks now use the overland pipeline which traverses the area. However, all six facilities are maintained for barge use should the pipeline be out of service. One barge facility is used for receipt and shipment of bulk rice; one is owned by the U.S. Air Force and used for receipt and shipment of military goods; and eight are inactive and occasionally used for temporary mooring of barges and various types of floating equipment.

b. Planned and potential port facilities.

(1) The Port District is planning a construction program to expand facilities, including the following:

- (a) Two bulk-storage warehouses, total area 125,000 square feet.
- (b) Six acres of paved open area for bulk storage.
- (c) Seven acres of paved-open area for container storage.
- (d) One container freight station.
- (e) One fertilizer storage and bagging warehouse.

(2) A container barge wharf (Wharf No. 4) and a LASH wharf (Wharf No. 3) would be constructed if this type of traffic increases. The Port District presently operates a barge service to shuttle containers between Sacramento and ports in the San Francisco Bay Area.

(3) The Port District owns extensive frontage along the periphery of the turning basin for construction of the additional waterside facilities.

(4) The ultimate plan for the port is highly flexible and tentatively includes 27 piers, docks and wharves as shown on Plate No. 33; however, each new facility would be constructed only when needed. Present plans provide for construction of all future facilities along the turning basin, and current plans show three additional wharves beyond Pier No. 8. If a planned turning basin is constructed 10 miles downstream from the port in the future, this could stimulate industrial development along the channel.

c. Railroad service.

(1) Sacramento, California is served by four railroads: The Southern Pacific Company (Southern Pacific Lines), the Western Pacific Railroad, the Sacramento Northern Railway, and the Central California Traction Company. The Atchison, Topeka and Santa Fe Railway also serves Sacramento by interchanging with the Central California Traction Company at Stockton, California.

(2) The Sacramento-Yolo Port District operates a storage yard with a capacity for about 200 cars, and tracks which serve the District's waterfront facilities at West Sacramento. This trackage connects with the Southern Pacific Company and the Sacramento Northern Railway. In Sacramento, the Western Pacific Railroad operates a rail yard with a total capacity for about 850 fifty-two-foot cars (normal operating capacity 550 cars); and the Southern Pacific Company operates a yard with a normal operating capacity of 720 forty-nine-foot cars. The Southern Pacific Company operates a large marshalling yard at Roseville, California, about 15 miles northeast of Sacramento; this yard has a daily capacity for 9,000 cars.

d. Existing and planned channels. The Sacramento River, Deep Water Ship Channel, shown on Plate 34, extends from Suisun Bay to Sacramento, a distance of 43 miles and includes in addition to the ship channel, a triangular harbor and turning basin at Washington Lake, a connecting barge canal with navigation lock from the harbor to the Sacramento River for transfer of barges between the two waterways, and a single-leaf combination highway and railroad bascule bridge across the canal at the harbor end of the navigation lock. The channel was formed by widening and deepening existing channels from Suisun Bay to a point about 6 miles upstream from Rio Vista, a distance of 18 miles. The remaining 25 miles to Washington Lake comprises a new channel excavated to 30 feet below mean lower low water and having a bottom width of 200 to 300 feet. The project permits deep-draft oceangoing vessels to proceed directly to Sacramento, thereby reducing shipping costs to a trade area of approximately 75,000 square miles with a population of over 1,240,000 people. The project channel is used also for large amounts of barge shipping because it provides a shorter route than the river and because the greater depth and slack water permit handling of larger barges. This project was completed in 1970 and is under maintenance. Preliminary evaluation indicates that increased traffic at the Port of Sacramento probably may justify deepening of the existing 30-foot channel in the future.

LIST OF PIERS, WHARVES, AND DOCKS AT SACRAMENTO, CALIFORNIA

Ref	Facilities	Page
1	Time Oil Company Dock	323
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21	Sacramento-Yolo Port District Wharf 7	343
22	Sacramento-Yolo Port District Pier 8	344

PIERS, WHARVES, AND DOCKS

Reference Number on Map	1		
Name	Time Oil Company Dock		
Location on Waterfront	Yolo County, right bank of river at mile 55.8, below foot of Linden Road		
Owned by	Time Oil Company.		
Operated by	Time Oil Company		
Purpose for which Used	Receipt of petroleum products by barge.		
Type of Construction	Timber pile, offshore dock with 2 timber decks at separate levels; timber pile, mooring dolphin at each side in line with face; 80- by 8-foot timber approach extends to dock from top of levee in rear.		
Description	Face (feet)	South side (feet)	North side (feet)
Dimensions	16	10	10
Depth Alongside at MLLW	5	-	-
Usable Berthing Space	125 w/dolph	-	-
Width of Apron	Open		
Height of Deck above MLLW	Upper, 30.0; lower 16.25		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed prior to 1950.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	Three 6-inch petroleum pipelines.		
Water Supply and Waste Treatment Facilities (Available to vessels)	None		
Railway Connections	None		
Highway Connections	Via Linden Rd. (approach-access), asphalt 18' from Jefferson Blvd. (arterial), asphalt, 22' wide. S. River Road along crown of levee in rear.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	One gasoline-powered pump with 4-inch line from river; one monitor nozzle; hose, and hand extinguishers.		
Remarks	Three 6-inch pipelines extend to dock from 10 steel, storage tanks located at terminal in rear of levee; total capacity 52,032 barrels. Each dock deck has same number and size hose connections for unloading barges. Note: Former Richfield Oil Corp. Wharf removed for Interstate No. 5.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
1	Time Oil Company	10	52,000
Total		10	52,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	2		
Name	Signal Oil and Gas Company Dock		
Location on Waterfront	West Sacramento, right bank of river at mile 57.87, above entrance to barge canal and lock.		
Owned by	Signal Oil and Gas Company		
Operated by	Signal Oil and Gas Company		
Purpose for which Used	Receipt of petroleum products by barge; fueling towboats.		
Type of Construction	Timber pile, offshore dock with 3 timber decks at separate levels; timber pile, mooring dolphin at each side in line with face; 135- by 8-foot, timber approach extends to south end of dock.		
Description	Face (feet)	South side (feet)	North side (feet)
Dimensions	30	11	11
Depth Alongside at MLLW	10	-	-
Usable Berthing Space	180 w/dolph	-	-
Width of Apron	Open	-	-
Height of Deck above MLLW	Upper, 30; middle, 17; lower, -		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in early 1940's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	Four 6 and one 2-inch petroleum pipelines.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	3/4 inch water supply line		
Railway Connections	None.		
Highway Connections	Via S. River Road (marginal-access), 20-40 feet wide, to-Interstate Routes 80 and 5.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hydrant, 2-inch line with hose, and hand extinguishers.		
Remarks Four 6- and one 2-inch pipelines extend from hose connections on upper and middle decks of dock to 16 steel, storage tanks in rear, total capacity 126,700 barrels. Towboats can be supplied with diesel fuel through a metered pump on dock which connects with a 2-inch line extending from a 10,000-barrel-capacity tank.			

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
2	Signal Oil and Gas Company (1)	16	126,700
Total		16	126,700

(1) 6 - 10,120 bbl tanks leased to Atlantic Richfield Company.
2 - 10,120 bbl tanks leased to Humble Oil Company.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	3		
Name	Phillips Petroleum Company Dock.		
Location on Waterfront	Approximately 115 feet above foot of Broadway (Y Street).		
Owned by	Phillips Petroleum Company.		
Operated by	Phillips Petroleum Company.		
Purpose for which Used	Receipt of petroleum products by barge.		
Type of Construction	Timber pile, offshore dock with 3 timber decks at separate levels; timber pile, mooring dolphin at each side in line with face. Two 70- by 10-foot, timber approaches extend to upper deck of dock from inclosed warehouse platform at rear. Stairway extends from south approach to middle and lower decks of dock.		
Description	Face (feet)	South side (feet)	North side (feet)
Dimensions	70	20	20
Depth Alongside at MLLW	9 (approx.)		
Usable Berthing Space	165 w/dolph.		
Width of Apron	Open.		
Height of Deck above MLLW	Upper, 30; middle, 21; lower, 12.		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None. (See Remarks.)		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed prior to 1950.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 1-ton, electric, A-frame derrick with 18-foot boom.		
Pipelines	Four 4- and one 3-inch petroleum pipelines.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 1 1/2-inch line with 3/4-inch outlets and hose		
Railway Connections	Trackage serving terminal in rear connects with Southern Pacific Company.		
Highway Connections	Via Broadway (Y Street) (arterial and approach), asphalt, 20-60 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Waterline, hose, hand extinguishers, and chemical cart.		
Remarks	Four 4- and one 3-inch pipelines extend from dock to 9 steel storage tanks located in rear of warehouse, total capacity 44,200 barrels. Private 196.6- by 40-foot warehouse with 73.3- by 40-foot inclosed platform at south end is located on shore in rear of dock. Note: Adjacent Union Oil Co. Wharf demolished.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
3	Phillips Petroleum (2)	9	44,200
Total		9	44,200

(2) Active dock facility.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	4		
Name	Standard Oil Company Dock.		
Location on Waterfront	Approximately 400 feet above foot of Broadway (Y Street).		
Owned by	Standard Oil Company of California.		
Operated by	Standard Oil Company of California. Western Operations, Inc.		
Purpose for which Used	Receipt of petroleum products by barge.		
Type of Construction	Timber pile, offshore dock with 3 timber decks at separate levels; timber pile, mooring dolphins in line with face; 105-foot, timber catwalk and pipeline trestle extends to dock from levee in rear.		
Description	Face (feet)	South side (feet)	North Side (feet)
Dimensions	21	30	30
Depth Alongside at MLLW	10-9	-	-
Usable Berthing Space	195 with dolphin.	-	-
Width of Apron	Open.		
Height of Deck above MLLW	Upper, 30; middle, 19; lower, 8.		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed prior to 1950.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	One 8- and two 6-inch petroleum pipelines.		
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	Trackage serving terminal in rear connects with Southern Pacific Company.		
Highway Connections	Via Broadway (Y Street) (arterial and approach), asphalt, 20-60 feet wide.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase 60-cycle.		
Fire Protection (Other than City)	Hand and cart foam extinguishers.		
Remarks	One 8- and two 6-inch pipelines extend from dock to 4 steel storage tanks on top of levee bank at rear and to 9 additional steel storage tanks at terminal located in rear of rail tracks, the 13 storage tanks have a total capacity of 72,200 barrels.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
4	Standard Oil Company of California	13	72,200
Total		13	72,200

PIERS, WHARVES, AND DOCKS

Reference Number on Map	5		
Name	Shell Oil Co. Dock.		
Location on Waterfront	Approximately 1.0 mile below Tower Bridge.		
Owned by	Shell Oil Company.		
Operated by	Shell Oil Company.		
Purpose for which Used	Receipt of petroleum products by barge; fueling small vessels.		
Type of Construction	Timber pile, offshore dock with 3 timber decks at separate levels; timber pile, mooring dolphins above north side in line with face; 122- by 10-foot, timber approach extends to dock from warehouse platform in rear.		
Description	Face (feet)	South side (feet)	North side (feet)
Dimensions	47.5	16	16
Depth Alongside at MLLW	16	-	-
Usable Berthing Space	130 w/dolph	-	-
Width of Apron	Open.		
Height of Deck above MLLW	Upper, 40.2;	middle, 25.2;	lower, 12.7.
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in 1941 & rehabilitation work done in 1963.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 1-ton, electric hoist with 10-foot boom.		
Pipelines	One 8-, three 6-, and two 4-inch petroleum pipelines.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	One 2½ - inch waterline		
Railway Connections	One surface track serves a tank car loading rack along south side of property, capacity 3 cars, and east side of warehouse located in rear of dock; connects with Sacramento Northern Railway		
Highway Connections	Via S.River Rd.(marginal-access),asphalt,20-40 ft.wide to Interstate Routes 80 and 5.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Waterline, hand extinguishers, 40-gallon foam cart, and hydrants.		
Remarks	One 8-, three 6-, and two 4-inch pipelines extend from dock to 17 steel, storage tanks in rear, total capacity 73,200 barrels; in addition, there are 10 lube oil storage tanks with a total capacity for 1,000 barrels. Metered pump on dock for fueling small vessels with diesel fuel at a rate of 50-60 gallons per minute; and gasoline at a rate of 30 gallons per minute.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
5	Shell Oil Company	17	73,200
Total		17	73,200

PIERS, WHARVES, AND DOCKS

Reference Number on Map	6		
Name	Ideal Cement Co. Dock.		
Location on Waterfront	Approximately 0.85 mile below Tower Bridge.		
Owned by	Ideal Cement Company.		
Operated by	Ideal Cement Company.		
Purpose for which Used	Receipt of dry bulk cement by self-unloading barge operating from Redwood City.		
Type of Construction	Prestressed concrete pile, concrete-decked offshore dock with 82- by 10-foot concrete approach; face of dock fronted by timber fender system with timber pile, mooring dolphins on north and south sides in line with face.		
Description	Face (feet)	South side (feet)	North side (feet)
Dimensions	33	18	18
Depth Alongside at MLLW	15 approx.	-	-
Usable Berthing Space	153 w/dolph	-	-
Width of Apron	Open.		
Height of Deck above MLLW	35.04		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed prior to 1950.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Fixed, steel tower, 42 feet high, on dock deck supports hose connections for unloading cement from barge.		
Pipelines	Two 12-inch bulk cargo pipeline.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	One 2-inch waterline.		
Railway Connections	Three surface tracks serve plant in rear (2 of the tracks each serves a 140-foot platform scale with a 300,000-lb. capacity); connect with Sacramento Northern Railway.		
Highway Connections	Via private drive (access), concrete, 20 feet wide from S. River Road (marginal), asphalt, 20-40 feet wide.		
Electric Current (Available to Vessels)	A.C., 440 volts, 3-phase, 60-cycle for barge pumps unloading cement.		
Fire Protection (Other than City)	--		
Remarks Two 12-inch pipelines extend from tower on dock to storage facilities at plant in rear, total storage capacity 140,000 barrels. The company does not operate the plant at this time.			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	7		
Name	Rice Growers Association of California Dock.		
Location on Waterfront	Approximately 0.5 mile south of Tower Bridge.		
Owned by	Rice Growers Association of California.		
Operated by	Rice Growers Association of California.		
Purpose for which Used	Shipment of sacked milled and bulk milled rice; receipt of bulk rough rice by self-unloading covered barges.		
Type of Construction	Concrete-filled, steel tube pile, concrete-decked dock; face of dock fronted by timber fender system with timber pile, mooring dolphins in line with face.		
Description	Face (feet)	South side (feet)	North side (feet)
Dimensions	18	141	141
Depth Alongside at MLLW	10 approx.	-	-
Usable Berthing Space	230 approx. w/dolphins.		
Width of Apron	None.		
Height of Deck above MLLW	38.88		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space Covered (Transit Sheds) Cargo Type (Bulk, Container, Etc.)	One - rectangular-shaped, with concrete floor, clear span.		
Number and Type of Construction	Dock had rehabilitation work completed in 1964.		
Length and Width (Feet)	141 by 18		
Height Inside (Feet)	10 approx.		
Floor Area for Cargo (Sq. Ft.)	2,538		
Load Capacity per Sq.Ft. (Lbs.)	-		
Cargo Doors	Shipside: One 12 by 10 feet; shore end: one large door-		
Open	way connects with main rice mill warehouse; both door-		
Cargo Type	ways used by forklift trucks.		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Gasoline, forklift trucks, available from rice mill warehouse in rear for loading barges with palletized, sacked rice. Located upstream from transit shed and at rear of mooring dolphins is a bulk, rice-receiving hopper equipped with 2 gravity, barge-loading spouts, a screw conveyor for receiving rough rice, and a 30-inch-wide electric belt conveyor for shipping milled rice extends from hopper to rice mill at rear; the hopper is adjustable through a vertical range of 15 feet.		
Pipelines	-		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	Trackage serving rice mill and storage facilities in rear connects with Sacramento Northern Railway.		
Highway Connections	Via Rice Mill Road (access), asphalt, 15 feet wide from S. River Road, asphalt, 20-40 feet wide.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	A.D.T. service, elevated water tank, sprinkler system with automatic auxiliary pump, hand extinguishers, hydrants, and hose.		
Remarks	Total rice storage capacity at mill in rear 490,000 cwt. (24,500 tons). Rough rice also is received at mill by rail and highway trailer trucks.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	8		
Name	Texaco, Inc., Dock		
Location on Waterfront	West Sacramento, right bank of river, approximately 0.1 mile below Tower Bridge		
Owned by	Texaco, Inc		
Operated by	Texaco, Inc.		
Purpose for which Used	Receipt of petroleum products by barge.		
Type of Construction	Timber pile, offshore dock with 2 timber decks at separate levels; timber pile, mooring dolphins in line with face; 90- by 4-foot, timber approach extends to dock from levee.		
Description	Face (feet)	South side (feet)	North side (feet)
Dimensions	18	18	18
Depth Alongside at MLLW	10-9	-	-
Usable Berthing Space	80 w/dolph	-	-
Width of Apron	Open	-	-
Height of Deck above MLLW	Upper, approximately 30; lower, -		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock constructed prior to 1950.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	Two 6- and one 4- inch petroleum pipelines.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	Sacramento Northern Railway surface tracks located adjacent to storage tanks.		
Highway Connections	via S. River Road (access and marginal), asphalt, 20-40 feet wide		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Hand extinguishers.		
Remarks	Two 6- and one 4-inch pipelines extend from dock to 8 steel, storage tanks located along opposite side of rail tracks in rear, total capacity 17,100 barrels. The decommissioned vessel "Delta King" moored at dock, at time of survey.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
8	Texaco, Inc.	8	17,100
Total		8	17,100

PIERS, WHARVES, AND DOCKS

Reference Number on Map	9		
Name	P Street Mooring.		
Location on Waterfront	Sacramento, left bank of river, foot of P Street.		
Owned by	City of Sacramento.		
Operated by	City of Sacramento.		
Purpose for which Used	Inactive		
Type of Construction	Row of timber pile, mooring dolphins parallel with riverbank.		
Description	Mooring dolphins (feet)		
Dimensions	215 approx.		
Depth Alongside at MLLW	10-8		
Usable Berthing Space	215 approx		
Width of Apron	-		
Height of Deck above MLLW	-		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Unlighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock constructed in 1920's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	Southern Pacific Company rail tracks in rear.		
Highway Connections	Via Front Street to Interstate routes 80 and 5.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	10		
Name	O Street Mooring Wharf		
Location on Waterfront	Sacramento, left bank of river, below foot of O Street.		
Owned by	City of Sacramento.		
Operated by	City of Sacramento.		
Purpose for which Used	Inactive.		
Type of Construction	Timber pile, timber-decked dock fronted by timber fender piles.		
Description	Face (feet)		
Dimensions	135 approx.		
Depth Alongside at MLLW	8		
Usable Berthing Space	135 approx.		
Width of Apron	Open.		
Height of Deck above MLLW	32.68		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock constructed in 1920's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	Southern Pacific Company rail tracks along Front Street in rear.		
Highway Connections	Via Front Street to Interstate Routes 80 and 5.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks	Dock deck is at truck bed level above paved levee crown located along rear.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	11		
Name	O-N Street Mooring		
Location on Waterfront	Sacramento, left bank of river, between foot of O and N Streets.		
Owned by	City of Sacramento.		
Operated by	City of Sacramento.		
Purpose for which Used	Inactive.		
Type of Construction	Row of timber pile, mooring dolphins parallel with riverbank.		
Description	Mooring dolphins (feet)		
Dimensions	310 approx.		
Depth Alongside at MLLW	8-7		
Usable Berthing Space	310 approx.		
Width of Apron	-		
Height of Deck above MLLW	-		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Unlighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Mooring was constructed in the 1920's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	Southern Pacific Company rail tracks along Front Street in rear.		
Highway Connections	Via Front Street to Interstate Routes 80 and 5.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	12		
Name	N Street Dock.		
Location on Waterfront	Sacramento, left bank of river foot of N Street and adjacent to lower side of Tower Bridge.		
Owned by	City of Sacramento.		
Operated by	City of Sacramento.		
Purpose for which Used	Inactive.		
Type of Construction	Concrete pile, concrete-decked dock; fronted by timber fender system.		
Description	Face (feet)		
Dimensions	425		
Depth Alongside at MLLW	12		
Usable Berthing Space	425		
Width of Apron	0		
Height of Deck above MLLW	Dock deck, 33; barge deck, 4.		
Load Capacity per Sq. Ft. (Lbs.)	400, dock.		
Lighted or Unlighted	Lighted.		
Storage Space	One - timber frame, metal-covered, concrete floor.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the 1920's.		
Length and Width (Feet)	425 by 100-65		
Height Inside (Feet)	18		
Floor Area for Cargo (Sq. Ft.)	40,000		
Load Capacity per Sq. Ft. (Lbs.)	400		
Cargo Doors	Shipside: two 12-foot-wide doors at marine elevators;		
Open	/Rear: 12-foot-wide truck doors.		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Two electric, marine elevators inside transit shed along dock face; one has 3-ton capacity with 18- by 12-foot platform, and one has 5-ton capacity with 22- by 12-foot platform; eight gasoline, forklift trucks, and one 4-ton, floating crane with 20-foot boom. Marine elevators, transfer forklift trucks between transit shed and company owned barges when needed to handle cargo.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 2-inch lines on dock.		
Railway Connections	Southern Pacific Company rail tracks along Front Street in rear.		
Highway Connections	Via Front Street to Interstate Routes 80 and 5.		
Electric Current (Available to Vessels)	A.C. 110 volts, single-phase 60-cycle; A.C., 220/440 volt: 3-phase, 60-cycle.		
Fire Protection (Other than City)	Three fire monitor nozzles along face of dock, hose, waterlines, and hand extinguishers.		
Remarks	Trucks have access to interior of transit shed through a 22-foot-wide door with ramp.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	13		
Name	Southern Pacific Railroad, West Sacramento Barge Mooring.		
Location on Waterfront	West Sacramento, right bank of river, below Tower Bridge.		
Owned by	Southern Pacific Company.		
Operated by	Southern Pacific Company.		
Purpose for which Used	Inactive.		
Type of Construction	Row of timber pile, mooring dolphins parallel with riverbank.		
Description	Mooring dolphins (feet)		
Dimensions	240 approx.		
Depth Alongside at MLLW	10-9		
Usable Berthing Space	240 approx.		
Width of Apron	None.		
Height of Deck above MLLW	None.		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Unlighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Mooring was constructed in 1962.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	--		
Water Supply and Waste Treatment Facilities	None.		
(Available to Vessels)			
Railway Connections	None.		
Highway Connections	None.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	-14		
Name	Broderick Dock.		
Location on Waterfront	Broderick, right bank of river, foot of G Street.		
Owned by	Tom Raley		
Operated by	Tom Raley		
Purpose for which Used	Inactive		
Type of Construction	Two 40-foot, floating, steel pontoons in line parallel with bank; floating catwalk extends to pontoons from foot of steps down sloping riverbank.		
Description	Face (feet)		
Dimensions	80 approx.		
Depth Alongside at MLLW	10-5		
Usable Berthing Space	80 approx.		
Width of Apron	Open.		
Height of Deck above MLLW	2-4		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the early 1900's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	- -		
Water Supply and Waste Treatment Facilities	None.		
(Available to Vessels)			
Railway Connections	None.		
Highway Connections	Via G Street (approach and access), asphalt (unpaved at levee), 15 feet wide from Second Street (marginal).		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	-		
Remarks	This dock will be removed when a proposed Marina is constructed.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	15		
Name	F Street Dock		
Location on Waterfront	Broadrick, right bank of river, foot of F Street.		
Owned by	Tom Raley		
Operated by	Tom Raley		
Purpose for which Used	Inactive.		
Type of Construction	Timber pile, concrete-surfaced, timber-decked, offshore dock; row of timber pile, mooring dolphins in line with face; 214- by 6-foot, timber approach extends to dock from levee in rear.		
Description	Face (feet)	South side (feet)	North side (feet)
Dimensions	36	12	12
Depth Alongside at MLLW	10-5	-	-
Usable Berthing Space	150 w/dolph.	-	-
Width of Apron	Open.		
Height of Deck above MLLW	22.88		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the early 1900's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	--		
Water Supply and Waste Treatment Facilities	None.		
(Available to Vessels)			
Railway Connections	None.		
Highway Connections	Via Second Street (marginal), asphalt, 20 feet wide.		
Electric Current (Available to Vessels)	--		
Fire Protection (Other than City)	--		
Remarks	This dock will be removed when a proposed marina is constructed.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	16		
Name	Government Dock.		
Location on Waterfront	Left bank of Sacramento River, about 1 1/4 miles upstream from mouth of American River.		
Owned by	U. S. Government, Air Force.		
Operated by	U. S. Government, Air Force.		
Purpose for which Used	Mooring government-owned, floating crane; handling heavy lifts between dock and river barges.		
Type of Construction	Concrete-encased timber pile, concrete-surfaced, timber-decked dock extending from 244-foot, concrete retaining wall with solid fill; face of dock fronted by a timber fender system. Timber screen bulkhead extends upstream from west side of dock for protection from river driftwood.		
Description	Face (feet)	East side (feet)	West side (feet)
Dimensions	350	80	80
Depth Alongside at MLLW	10 approx.	-	-
Usable Berthing Space	350	-	-
Width of Apron	Open.		
Height of Deck above MLLW	35.9		
Load Capacity per Sq. Ft. (lbs.)	188		
Lighted or Unlighted	Lighted.		
Storage Space	One-timber frame, metal covered, with concrete floor at east end of dock.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the 1940's.		
Length and Width (Feet)	80 by 40		
Height Inside (Feet)	12		
Floor Area for Cargo (Sq. Ft.)	3,200		
Load Capacity per Sq. Ft. (lbs.)	188		
Cargo Doors	Shipside: none; West side: two 2 1/2- by 10-foot sliding doors; Shore end: one 12 3/4- by 8-foot door.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One electric, stiff-let derrick with 80-foot boom on west portion of dock; maximum working radius 75 feet with out-board reach of 60 feet; lifting capacity 15 tons at 72-foot radius. One diesel-electric, revolving crane with 95.5 foot boom, mounted on a 142- by 58-foot, towed, steel barge; lift capacity 60 tons at 73-foot radius.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	None.		
Highway Connections	Via Garden Highway (Marginal-State Hwy. No. 24), asphalt, 20 feet wide.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Hand extinguishers, hydrant, and hose.		

Remarks Water depth in river off face is about 14 feet. Special arrangements must be made by private interests for commercial use of this dock, derrick, and floating crane. Highway vehicles have access to dock.
Note: Adjacent Lloyd G. Connelly facility converted to marina.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	17		
Name	Sacramento-Yolo Port District Pier 1		
Location on Waterfront	West Sacramento, north side of deep water harbor, at junction with barge canal		
Owned by	Sacramento-Yolo Port District		
Operated by	Sacramento-Yolo Port District		
Purpose for which Used	Bulk rice loading facility		
Type of Construction	Prestressed concrete pile, concrete deck wharf, fronted by timber fender system. Rear of east portion of wharf forms barge slip with sloping bank along opposite side.		
Description	Face (feet)	East side (feet)	Rear of face (feet)
Dimensions	613	30	450
Depth Alongside at MLLW	30	30 - 13	13
Usable Berthing Space	613	-	400
Width of Apron	open		
Height of Deck above MLLW	22		
Load Capacity per Sq. Ft. (Lbs.)	400		
Lighted or Unlighted	lighted		
Storage Space	Rice elevators located 300 ft. behind pier.		
Covered (Transit Sheds)	20 silos, total storage capacity 22,000 tons.		
Cargo Type (Bulk, Container, Etc.)	Bulk rice storage		
Number and Type of Construction	8 conc.silos @ 2200 ton : 6 silos @ 470 T : 6 silos @ 270 T		
Length and Width (Feet)	23' diameter	: Odd shape	: odd shape
Height Inside (Feet)	117	: 117	: 117
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None		
Mechanical Handling Facilities	3 loading spouts at dockside; conveyor system to storage facility. Loading rate is 600 tons per hour.		
Pipelines	None		
Water Supply and Waste Treatment Facilities	8" water supply		
(Available to Vessels)			
Railway Connections	Trackage system in port boundary. Connects with Southern Pacific and Sacramento Northern Railway.		
Highway Connections	Harbor Blvd. (1/2 mile) to Interstate 80 interchange and Stone Boulevard to Jefferson Boulevard.		
Electric Current (Available to Vessels)	440 & 110 Volts		
Fire Protection (Other than City)	Hydrants and hose		
Remarks	The Farmers Rice Growers Cooperative has storage facilities for 1,000,000 bags (cwt. bags) immediately northeast of port property. Pier was constructed in 1961-1963.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	18		
Name	Sacramento-Yolo Port District Wharf 2		
Location on Waterfront	North side of harbor at eastern end of turning basin		
Owned by	Sacramento-Yolo Port District		
Operated by	Sacramento-Yolo Port District		
Purpose for which Used	General cargo		
Type of Construction	Prestressed concrete pile, asphalt surfaced, concrete-decked wharf fronted with timber fender system.		
Description	Face (feet)	West side (feet)	
Dimensions	600	55-60 approx.	
Depth Alongside at MLLW	30		
Usable Berthing Space	600		
Width of Apron	60		
Height of Deck above MLLW	22		
Load Capacity per Sq. Ft. (Lbs.)	750 on apron; 1,000 on fill in rear		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	Concrete, asphalt floor transit shed.		
Cargo Type (Bulk, Container, Etc.)	General Cargo/Bulk		
Number and Type of Construction	one-concrete, asphalt floor and (see remarks)		
Length and Width (Feet)	180 x 480		
Height Inside (Feet)	20		
Floor Area for Cargo (Sq. Ft.)	86,400		
Load Capacity per Sq.Ft. (Lbs.)	1000		
Cargo Doors	Shipside: eight 18'-8" x 18'; rear : eight 18'-8"x18'; each end; one 24x20 truck entrance door		
Open			
Cargo Type	Bulk/Gen. Cargo		
Area (Acres)	3		
Surfacing Type	Asphalt		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	7 Forklifts, 1 paper squeezer lift, 4 front-end loaders, and 1 dump truck available for use at wharves 2, 6, and 7.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	8-in. water supply		
Railway Connections	One surface track on apron and one surface track in rear of transit shed. Connects with Southern Pacific and Sacramento Northern Railway.		
Highway Connections	Harbor Blvd. (1/2 mile) to Interstate 80 interchange and Stone Boulevard to Jefferson Boulevard.		
Electric Current (Available to Vessels)	440 & 110 volts		
Fire Protection (Other than City)	Sprinkler system inside transit shed and inflated storage; hydrants and hose.		
Remarks	One inflated storage building; 80 ft. x 520 ft.; 34 ft. high at center; floor area for cargo: 41,600 ft.; load capacity: 1,000 lbs. per sq. ft.; cargo doors: four 12 ft. x 12 ft. air lock truck doors and four personnel doors; used for storage of general and bulk cargo. Wharf was constructed in 1961-1963.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	19		
Name	Sacramento-Yolo Port District Pier 5		
Location on Waterfront	Northeast side of turning basin		
Owned by	Sacramento-Yolo Port District		
Operated by	Cargill of California, Inc., as a public utility		
Purpose for which Used	Shipment of bulk grain		
Type of Construction	Prestressed concrete pile, concrete deck wharf, fronted by timber fender system. Rear of east portion of wharf forms barge slip with sloping bank along opposite side.		
Description	Face (feet)	Southeast side (feet)	Rear of face (feet)
Dimensions	600	30	450
Depth Alongside at MLLW	30	30-10	10
Usable Berthing Space	600	-	400
Width of Apron	Open and 30		
Height of Deck above MLLW	22		
Load Capacity per Sq. Ft. (Lbs.)	400		
Lighted or Unlighted	lighted		
Storage Space	Grain elevators located 600 ft. behind pier.		
Covered (Transit Sheds)	Bulk grains : Bulk grains		
Cargo Type (Bulk, Container, Etc.)	Bulk grains		
Number and Type of Construction	6 steel storage tanks	: 17 concrete bins	
Length and Width (Feet)	55 dia	12 - 24' dia	5 - odd
Height Inside (Feet)	65	100	100
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open	None		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None		
Mechanical Handling Facilities	Conveyor belt system; loading rate is 600 tons per hour.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	8-in. water supply		
Railway Connections	Trackage serving grain elevator joins additional trackage serving terminal; connects with Southern Pacific Railroad Company and Sacramento Northern Railway.		
Highway Connections	Harbor Blvd. (1/2 mile) to Interstate 80 interchange and Stone Boulevard to Jefferson Boulevard.		
Electric Current (Available to Vessels)	220 & 110 volts		
Fire Protection (Other than City)	Hydrants and hose		
Remarks	Total capacity of grain elevator 1,250,000 bushels (30,000 tons); 17 concrete silos total capacity 500,000 bushels; 6 steel silos, total capacity 750,000 bushels. Wharves 5, 6, 7 and Pier 8 provide for 2,110 feet of continuous berthing. Pier was constructed in 1961-1963.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	20		
Name	Sacramento-Yolo Port District Wharf 6		
Location on Waterfront	Northeast side of turning basin		
Owned by	Sacramento-Yolo Port District		
Operated by	Sacramento-Yolo Port District		
Purpose for which Used	General cargo and various bulk commodities		
Type of Construction	Prestressed concrete pile, asphalt surfaced, concrete-decked wharf fronted with timber fender system.		
Description	Face (feet)		
Dimensions	600		
Depth Alongside at MLLW	30		
Usable Berthing Space	600		
Width of Apron	Open		
Height of Deck above MLLW	22		
Load Capacity per Sq. Ft. (Lbs.)	750 on 63-ft. apron; 1,000 on fill in rear		
Lighted or Unlighted	lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Wharf was constructed in 1961-1963.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	General Cargo/bulk	Log storage	
Area (Acres)	3	27	
Surfacing Type	Asphalt	Unpaved	
Tank (Other than Petroleum)			
Mechanical Handling Facilities	2 gantry cranes (45 ton capacity) and 3 loghandlers. 2 frontend loaders available for use from Wharf 2. Gantry cranes available for use at wharves 6 and 7.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	8-in. water supply		
Railway Connections	Two connecting surface tracks on apron extend to apron of adjacent Wharf 7 (reference 7) and 2 surface tracks extend along rear of open storage area. Joins additional trackage in terminal and connects with Southern Pacific Railroad and Sacramento Northern Railway.		
Highway Connections	Harbor Blvd. (1/2 mile) to Interstate 80 interchange and Stone Boulevard to Jefferson Boulevard.		
Electric Current (Available to Vessels)	480, 220, 110 volts		
Fire Protection (Other than City)	Hydrants and hoses		
Remarks	9 acres of open storage space (asphalt paved) for logs located at northwest end of terminal.		

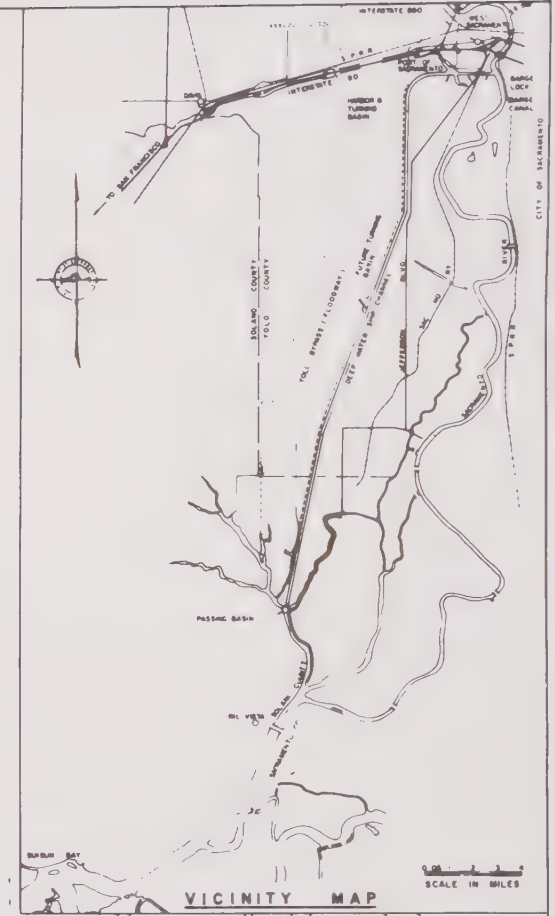
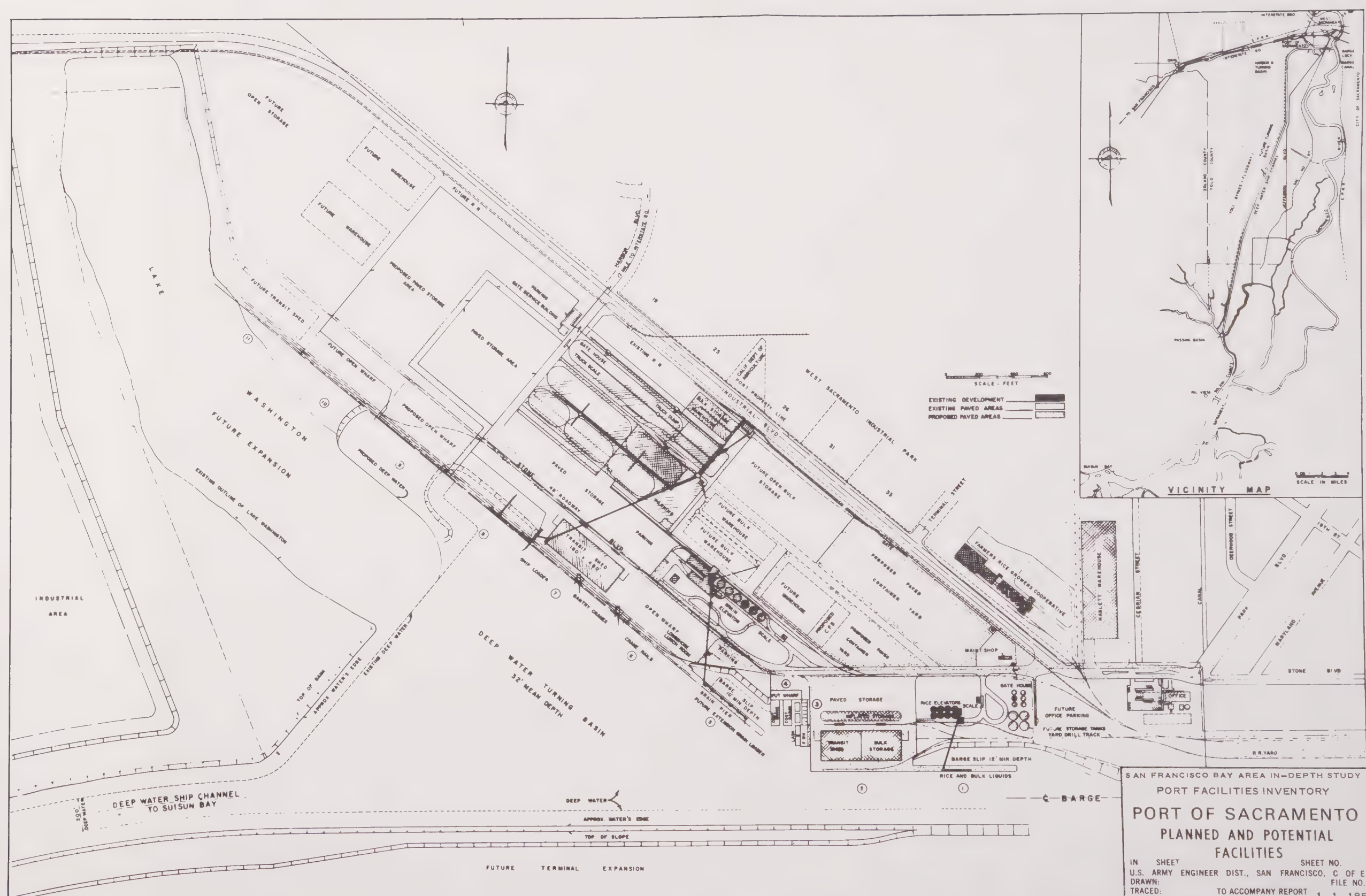
PIERS, WHARVES, AND DOCKS

Reference Number on Map	21		
Name	Sacramento-Yolo Port District Wharf 7		
Location on Waterfront	Northeast side of turning basin		
Owned by	Sacramento-Yolo Port District		
Operated by	Sacramento-Yolo Port District		
Purpose for which Used	General cargo and bulk wood chips		
Type of Construction	Prestressed concrete pile, asphalt surfaced, concrete-decked wharf fronted with timber fender system.		
Description	Face (feet)		
Dimensions	600		
Depth Alongside at MLLW	30		
Usable Berthing Space	600		
Width of Apron	63		
Height of Deck above MLLW	22		
Load Capacity per Sq. Ft. (Lbs.)	750 on 63-ft apron; 1,000 on fill in rear		
Lighted or Unlighted	lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	General Cargo		
Number and Type of Construction	One-concrete, asphalt floor; Wharf was constructed 1961-1963.		
Length and Width (Feet)	480 x 180		
Height Inside (Feet)	20		
Floor Area for Cargo (Sq. Ft.)	86,400		
Load Capacity per Sq. Ft. (Lbs.)	1,000		
Cargo Doors	Shipside: 8, - 18'-8" x 18'; rear 8, - 18'-8" x 18'; each end		
Open	1-24 x 20' truck entrance door		
Cargo Type	wood chips		
Area (Acres)	24		
Surfacing Type	asphalt		
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Conveyor bulk loader system. Capacity up to 600 tons per hour. Rotary rail car dumper, 3 dozers (track), 3 rubber tire loaders. Forklifts and frontend loaders described in Wharf 2 are available for use at Wharves 6 and 7. 2 gantry cranes (45 ton capacity) available.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	8-in. water supply		
Railway Connections	Two connecting surface tracks on apron extend to apron of adjacent Wharf 7 (reference 7) and 2 surface tracks extend along rear of open storage area. Joins additional track- age in terminal and connects with Southern Pacific Railroad and Sacramento Northern Railway.		
Highway Connections	Harbor Blvd. (1/2 mile) to Interstate 80 interchange and Stone Boulevard to Jefferson Boulevard		
Electric Current (Available to Vessels)	220 and 110 volts		
Fire Protection (Other than City)	Sprinkler system inside transit shed, hydrants and hose.		
Remarks	Bulk storage warehouse located behind 24-acre woodchip storage area; dimensions are: width and length, 128 ft. x 300 ft.; sides, 20 ft. high; center, 68 ft. high.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	22		
Name	Sacramento-Yolo Port District Pier 8		
Location on Waterfront	Northeast side of turning basin		
Owned by	Sacramento-Yolo Port District		
Operated by	Sacramento-Yolo Port District		
Purpose for which Used	Loading of bulk cargo		
Type of Construction	3 timber pile dolphins connected by 3-foot catwalk to Wharf 7.		
Description	Face (feet)		
Dimensions	310		
Depth Alongside at MLLW	30		
Usable Berthing Space	310		
Width of Apron	-		
Height of Deck above MLLW	22		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None		
Number and Type of Construction	Pier was constructed in 1970.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Uses conveyor belt loader at Wharf 7.		
Pipelines	None		
Water Supply and Waste Treatment Facilities	None		
Railway Connections	None		
Highway Connections	None		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	None		
Remarks	This pier is an extension of Wharf 7 to facilitate maneuvering of bulk carriers, during loading.		

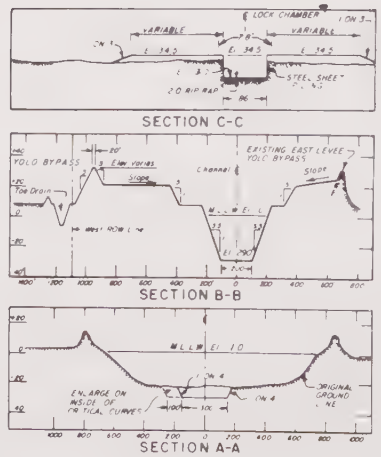
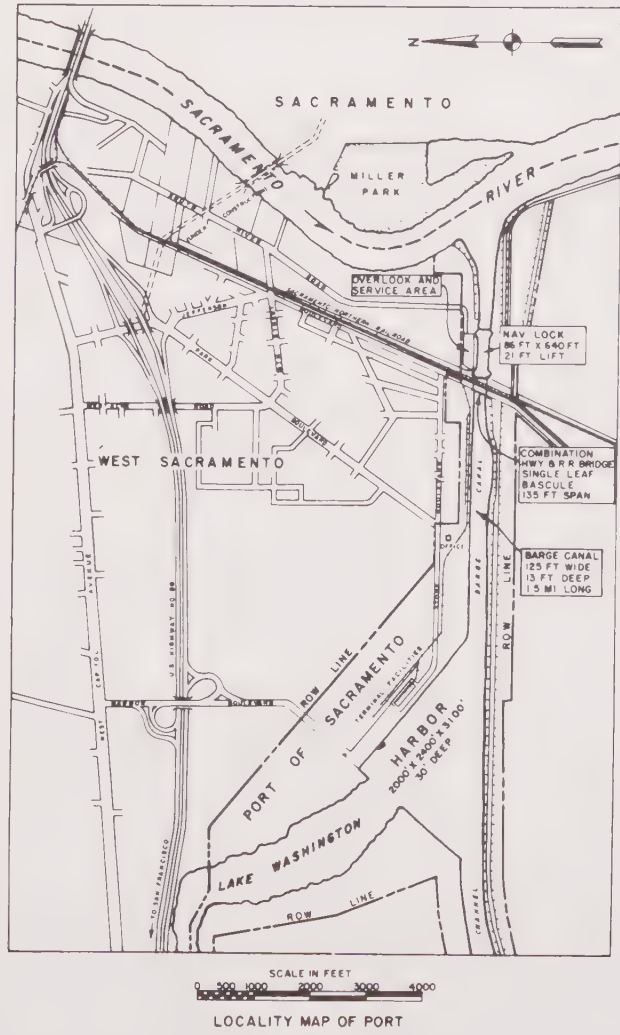
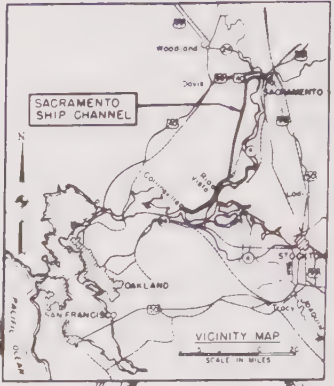
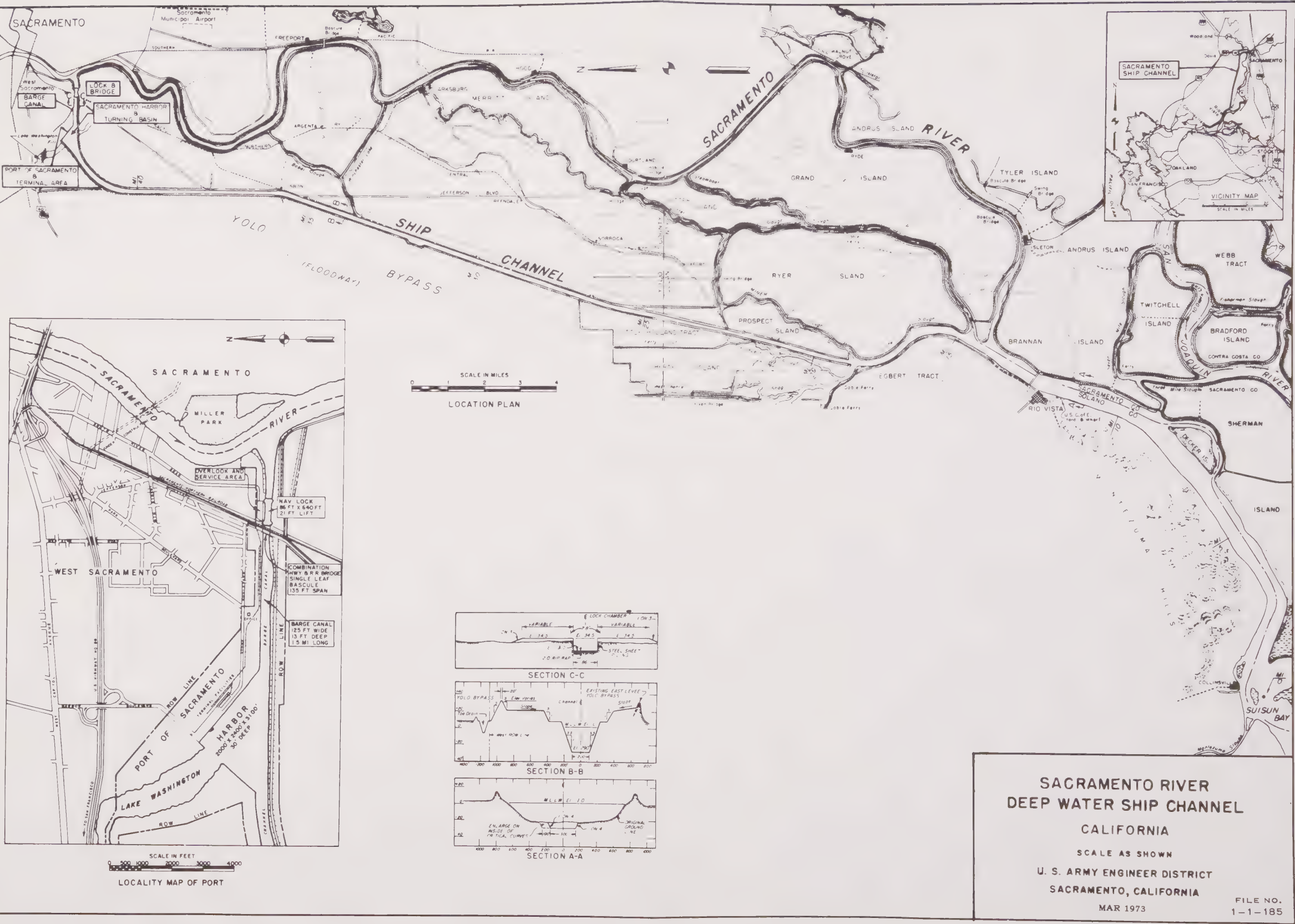




SAN FRANCISCO BAY AREA IN-DEPTH STUDY
 PORT FACILITIES INVENTORY
PORT OF SACRAMENTO
 PLANNED AND POTENTIAL
 FACILITIES

IN SHEET U.S. ARMY ENGINEER DIST., SAN FRANCISCO, C OF E
 DRAWN: FILE NO.
 TRACED: TO ACCOMPANY REPORT
 CHECKED: DATED MAR 1973

SHEET NO. 1-1-185



**SACRAMENTO RIVER
DEEP WATER SHIP CHANNEL**

CALIFORNIA

SCALE AS SHOWN

U. S. ARMY ENGINEER DISTRICT
SACRAMENTO, CALIFORNIA

MAR 1973

FILE NO.
1-1-185

PLATE 34

17. PORT OF STOCKTON

a. Existing port facilities. The Port of Stockton is in the central part of the State, at the head of the Stockton Ship Channel. The distance from Golden Gate Bridge to the port is 75 nautical miles. From the Pacific Ocean, vessels reach the Port of Stockton via the Golden Gate Strait, San Francisco Bay, San Pablo Bay, Carquinez Strait, Suisun Bay, New York Slough, and the San Joaquin River-Stockton Ship Channel.

(1) Thirty-nine piers, wharves, and docks are described in this report for the Port of Stockton. Included are the facilities located on the San Joaquin River-Stockton Ship Channel, the San Joaquin River, the Stockton Deep Water Channel, the Mormon Channel, the Upper Stockton Channel and Fremont Channel. Each of these thirty-nine facilities is described in detail under a reference number in the table "Piers, Wharves, and Docks" on the following pages. The reference number assigned to each facility is used to designate its location on the accompanying map, Plate 35.

(2) Three port facilities are located on Rough and Ready Island along the south side of the San Joaquin River-Stockton Ship Channel; two are on the right bank of the San Joaquin River south of its junction with the Deep Water Channel; ten on the south side of the Stockton Deep Water Channel between the river junction and the turning basin; three on the southerly side of the turning basin; two on Mormon Channel; seventeen on the Upper Stockton Channel; and two on the west side of Fremont Channel. Thirteen of these water-front facilities are deep-draft wharves, berths, and piers and twenty-six are shallow-draft docks.

(3) Eleven deep-draft facilities are operated by the Stockton Port District. These wharves, berths numbered 2 through 15, provide over 7,000 feet of berthing space, with water depths alongside ranging from 30 to 37 feet below mean lower low water and handle general cargo in foreign and domestic trade. In addition to handling general cargo, berth No. 9 receives molasses and ships bulk wine; wharves 7 and 8 are used to ship shredded scrap metal; wharf No. 4 receives and ships bulk phosphates and fertilizers; and, wharf No. 2 ships logs and handles heavy lift cargo. A container wharf, completed in 1969, is also used to receive petroleum products and molasses. This wharf replaced the ore dock, berth number 10-11. Transit sheds having a total of more than 480,000 square feet are located at eight of the deep-draft wharves. Adjacent open-storage areas are available. Two deep-draft facilities, with water depths ranging from 28 to 37 feet below mean lower low water, are operated by the Stockton Elevators Company and used for shipment of grain.



Port of Stockton. This port serves the rich agricultural area of the Central Valley and handles primarily bulk materials.

(4) Five of the twenty-six shallow-draft docks are located in the Stockton Ship Channel, two in Mormon Channel, seventeen in the upper Stockton Channel and two in Fremont Channel. Four facilities are used for receipt of petroleum products; one each is used for receipt of grain, receipt of molasses, shipment of treated timbers and pilings, mooring of barges, and mooring for fire boat and patrol boat. Nine facilities are used in connection with marine repair activities of three plants and eight are inactive except for temporary mooring of barges. Six facilities at the Port of Stockton are equipped to receive petroleum products by water; three are located along the Stockton Deep Water Channel, two on the right bank of the San Joaquin River, and one on the Upper Stockton Channel.

b. Planned and potential port facilities.

(1) An application for a grant to purchase a 100-foot off-shore container crane has been made to the Economic Development Administration, Department of Commerce to be financed from FY 1973 funding. A 28-acre paved container storage yard is planned for construction when the crane is obtained. At present a 10-acre terminal facility exists that includes a container freight station and 5-1/2 acres of container marshalling and storage area.

(2) The existing 30-foot channel to the Port of Stockton is authorized for deepening to 35 feet. Work is scheduled to begin when environmental problems are resolved. The existing waterfront facilities are considered adequate to handle additional commodity traffic with the 35-foot channel.

(3) The Bulk Material Wharf, berth 12-13, is scheduled to be renovated in the new future, and additional mechanical bulk-handling equipment will be installed. A storage area for 200,000 tons of bulk material is planned.

(4) All available deep-water frontage lands now owned by the Stockton Port District are utilized for wharves and piers. Waterfront lands on Rough and Ready Island as shown on Plate No. 35 are being considered as an area for future expansion. Should the Federal Government declare Rough and Ready Island as surplus lands, the Port District would probably acquire at least five wharves and additional backup lands and warehouses.

(5) Future channel deepening beyond the authorized 35-foot depth probably would require additional waterfront facilities to handle the expanded commodity traffic.

c. Railroad service.

(1) Stockton, California is served by a three line-haul carriers: The Atchison, Topeka and Santa Fe Railway, the Southern

Pacific Company (Southern Pacific Lines), and the Western Pacific Railroad; three short-line carriers: The Central California Traction Company, the Stockton Terminal and Eastern Railroad Company, and the Tidewater Southern Railway Company; and one terminal switching line: The Stockton Public Belt Railroad, which serves the waterfront facilities operated by the Stockton Port District, and connects with the three line-haul carriers.

(2) The rail yards in the Stockton Port Area and their capacities are:

Railroad and Yard	Total Storage Capacity (cars)
<u>The Atchison, Topeka and Santa Fe Railway</u>	
Mormon Yard	1,040 (1)
<u>Southern Pacific Company</u>	
Hislop Yard	1,164 (2)
South (Charter Way) Yard	120 (2)
<u>Stockton Public Belt Railroad</u>	
Port Yard	260
Port District Industrial Park Yard . . .	145
<u>The Western Pacific Railroad</u>	
Stockton Yards	2,000 (3) (4)
<u>Central California Traction Company</u>	
Shops Yard	75
Santa Fe Yard	40
Flora Yard	19

- (1) 40-foot cars.
- (2) 49-foot cars.
- (3) 52-foot cars.
- (4) Normal operating capacity 1,650 fifty-three-foot cars.

d. Existing and planned channels.

(1) The San Joaquin River Project, shown on Plate 36, for navigation was authorized in numerous River and Harbor Acts since 1876. It provides for the Stockton Deep Water Ship Channel to the city of Stockton and for minor channel improvements from Stockton Channel upstream for 86 miles to Hills Ferry to facilitate light-draft navigation. The 1927 River and Harbor Act authorized the original deep-water

channel with a depth of 26 feet, which was subsequently modified to 30 feet by the 1935 authorization, and the most recent modification of the project was authorized by the 1950 Act (House Document No. 752, 80th Congress, 2d Session). Previous to the 1950 modification, the project provided for a channel of 30-foot depth, and from 225- to 400-foot bottom width, from the mouth of San Joaquin River, at Pittsburg, to Stockton, a distance of about 41 miles; channel improvements at Stockton; two passing basins; two settling basins; reconstruction of certain levees required for channel improvement; and snagging, removing overhanging trees and construction of wing dams between Stockton Channel and Hills Ferry. All work authorized prior to 1950 and presently required is complete. The 1950 modification, as constructed, provides enlargement of the existing turning basin at Stockton; and placement of bank protection on the face of such levees along the San Joaquin River below Stockton as had been critically damaged by traffic-induced wave action.

(2) This project will be modified by a new channel and various channel improvements to be constructed under provisions included in San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Project, authorized by the River and Harbor Act of 1965 (Public Law 89-298, 89th Congress, 1st Session).

(3) The project, known as the San Francisco Bay to Stockton Channel Project (John F. Baldwin and Stockton Ship Channels) and shown on Plate 37, is located on navigation channels that extend from the San Francisco Bay entrance to the Port of Stockton.

(4) The project provides for: (a) modification of the existing San Francisco Harbor Project by increasing the depth of the Main Ship channel across San Francisco Bar from 50 feet to 55 feet; (b) modification of the existing Richmond Harbor Project by deepening from 35 feet to 45 feet, enlarging a maneuvering area, and constructing a new channel through the navigation opening of the Richmond-San Rafael Bridge to a depth of 45 feet; (c) modification of the existing San Pablo Bay and Mare Island Strait Project by deepening Pinole Shoal Channel from 35 feet to 45 feet, and constructing a maneuvering area adjacent to the Oleum Pier 45 feet in depth; (d) modification of the existing Suisun Bay Channel Project by deepening the channel between Carquinez Strait and Point Edith from 30 feet to 45 feet, and from 30 feet to 35 feet between Point Edith and Chipps Island and widening the channel and maneuvering area, constructing a new turning basin between Carquinez Strait and Chipps Island, and deepening the widened portion of the project channel between Chipps Island and Pittsburg to 35 feet; and, (e) modification of the existing San Joaquin River Navigation Project by deepening Stockton Deep Water Channel from 30 feet to 35 feet, realigning the channel to follow the False River route, constructing a new turning basin and maneuvering area 35 feet in depth, constructing public recreation areas and facilities along the route, and placing of rock revetment on levees bordering the ship channel.

(5) Preconstruction planning was initiated in 1967 and completed in 1969. Construction was started in June 1971 with the initiation of dredging in the Main Ship Channel, San Francisco Harbor. Project completion is scheduled for 1981.

LIST OF PIERS, WHARVES, AND DOCKS AT STOCKTON, CALIFORNIA

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PIERS, WHARVES, AND DOCKS

Reference Number on Map	1		
Name	Port of Stockton Rough and Ready Island Wharf, Berth 14-15		
Location on Waterfront	Foot of First Street, Rough and Ready Island.		
Owned by	U. S. Government		
Operated by	Stockton Port District		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Prestressed concrete pile, concrete-decked wharf fronted by timber fender system (see remarks).		
Description	Face (feet)	East Side (feet)	
Dimensions	1,200	60	
Depth Alongside at MLLW	30	--	
Usable Berthing Space	1,200	--	
Width of Apron	51.7		
Height of Deck above MLLW	15.5		
Load Capacity per Sq. Ft. (Lbs.)	1,000		
Lighted or Unlighted	Lighted		
Storage Space	Shed No. 211: steel frame, 6-foot high, wooden sides topped with asphalt-coated, corrugated sheet metal; concrete floor. Shed is divided into 3 sections by concrete firewalls.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	Wharf was constructed in 1944.		
Number and Type of Construction			
Length and Width (Feet)	602 x 152		
Height Inside (Feet)	19 feet 5 inches		
Floor Area for Cargo (Sq. Ft.)	91,504		
Load Capacity per Sq.Ft. (Lbs.)	1,000		
Cargo Doors	Shipside: nine 14 by 14 ft., and three 16 by 16 ft. (over)		
Open			
Cargo Type	See remarks.		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None		
Mechanical Handling Facilities	Forklift trucks and other types of cargo-handling equipment, owned by the Port District and by Stevedoring Companies, are available as needed. Cranes maintained at adjacent Government-operated wharf are available here as needed. Each is a diesel-electric, (over)		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 2-1/2 inch connections.		
Railway Connections	Two surface tracks extend full length of wharf apron; and two platform-level tracks are along rear platform of shed; (over)		
Highway Connections	Via First Street (access), asphalt, 20 feet wide, from N Street, paved, 20 feet wide.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Pumps, hose reels, hand extinguishers, and watchmen.		
Remarks	This wharf is the eastern portion of a long, continuous wharf of the same construction. About 3.5 acres of asphalt-paved and 11 acres of unpaved, open storage area are located in rear.		

(1 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	1		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors	rear: twelve 14 by 14 ft. along covered rail platform: one		
Open	16- by 16-ft. truck access door (each end).		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	revolving, traveling, full-portal, gantry crane with 90-foot boom, lifting capacity 30 tons at 35-foot radius and 10 tons at maximum radius.		
Pipelines			
Water Supply and Waste Treatment Facilities			
Railway Connections	join Stockton Public Belt Railroad which is served by the Southern Pacific Company, The Atchison, Topeka and Santa FE Railway, and The Western Pacific Railroad.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	2																																																																																																																						
Name	Shell Oil Company Dock.																																																																																																																						
Location on Waterfront	Approximately 0.2 miles east of foot of First Street. Rough and Ready Island.																																																																																																																						
Owned by	Shell Oil Company.																																																																																																																						
Operated by	Shell Oil Company.																																																																																																																						
Purpose for which Used	Receipt of petroleum products.																																																																																																																						
Type of Construction	Timber pile, timber-decked, offshore dock with 25- by 15-foot, combination approach and pipeline trestle; timber pile, mooring dolphins at each side in line with face.																																																																																																																						
Description	<table border="1"> <thead> <tr> <th></th> <th>Face (feet)</th> <th>Lower side (feet)</th> <th>Upper side (feet)</th> </tr> </thead> <tbody> <tr> <td>Dimensions</td> <td>40</td> <td>16</td> <td>16</td> </tr> <tr> <td>Depth Alongside at MLLW</td> <td>15-10</td> <td>-</td> <td>-</td> </tr> <tr> <td>Usable Berthing Space</td> <td>100 w/dolphins</td> <td>-</td> <td>-</td> </tr> <tr> <td>Width of Apron</td> <td>Open.</td> <td></td> <td></td> </tr> <tr> <td>Height of Deck above MLLW</td> <td>14</td> <td></td> <td></td> </tr> <tr> <td>Load Capacity per Sq. Ft. (Lbs.)</td> <td>-</td> <td></td> <td></td> </tr> <tr> <td>Lighted or Unlighted</td> <td>Lighted.</td> <td></td> <td></td> </tr> <tr> <td>Storage Space</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Covered (Transit Sheds)</td> <td>None.</td> <td></td> <td></td> </tr> <tr> <td>Cargo Type (Bulk, Container, Etc.)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Number and Type of Construction</td> <td>Dock was constructed prior to 1950.</td> <td></td> <td></td> </tr> <tr> <td>Length and Width (Feet)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Height Inside (Feet)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Floor Area for Cargo (Sq. Ft.)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Load Capacity per Sq.Ft. (Lbs.)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cargo Doors</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Open</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cargo Type</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Area (Acres)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Surfacing Type</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Tank (Other than Petroleum)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mechanical Handling Facilities</td> <td>None.</td> <td></td> <td></td> </tr> <tr> <td>Pipelines</td> <td>Two 6- and one 4-inch pipelines.</td> <td></td> <td></td> </tr> <tr> <td>Water Supply and Waste Treatment Facilities (Available to Vessels)</td> <td>None.</td> <td></td> <td></td> </tr> <tr> <td>Railway Connections</td> <td>One surface, spur track serves the Shell Oil Company plant in rear; joins Stockton Public Belt Railroad which is served by So. Pac. Co., The AT&SF RR and The Western</td> <td></td> <td></td> </tr> <tr> <td>Highway Connections</td> <td>Pac. Co. RR. Via private drive (access), unpaved 10 feet wide from N Street, paved, 20 feet wide.</td> <td></td> <td></td> </tr> <tr> <td>Electric Current (Available to Vessels)</td> <td>None.</td> <td></td> <td></td> </tr> <tr> <td>Fire Protection (Other than City)</td> <td>Hand extinguishers, hose reels, and chemical cart.</td> <td></td> <td></td> </tr> <tr> <td>Remarks</td> <td>Two 6- and one 4-inch pipelines connect dock with 13 steel, storage tanks in rear, total capacity 102,200 barrels.</td> </tr> </tbody></table>		Face (feet)	Lower side (feet)	Upper side (feet)	Dimensions	40	16	16	Depth Alongside at MLLW	15-10	-	-	Usable Berthing Space	100 w/dolphins	-	-	Width of Apron	Open.			Height of Deck above MLLW	14			Load Capacity per Sq. Ft. (Lbs.)	-			Lighted or Unlighted	Lighted.			Storage Space				Covered (Transit Sheds)	None.			Cargo Type (Bulk, Container, Etc.)				Number and Type of Construction	Dock was constructed prior to 1950.			Length and Width (Feet)				Height Inside (Feet)				Floor Area for Cargo (Sq. Ft.)				Load Capacity per Sq.Ft. (Lbs.)				Cargo Doors				Open				Cargo Type				Area (Acres)				Surfacing Type				Tank (Other than Petroleum)				Mechanical Handling Facilities	None.			Pipelines	Two 6- and one 4-inch pipelines.			Water Supply and Waste Treatment Facilities (Available to Vessels)	None.			Railway Connections	One surface, spur track serves the Shell Oil Company plant in rear; joins Stockton Public Belt Railroad which is served by So. Pac. Co., The AT&SF RR and The Western			Highway Connections	Pac. Co. RR. Via private drive (access), unpaved 10 feet wide from N Street, paved, 20 feet wide.			Electric Current (Available to Vessels)	None.			Fire Protection (Other than City)	Hand extinguishers, hose reels, and chemical cart.			Remarks	Two 6- and one 4-inch pipelines connect dock with 13 steel, storage tanks in rear, total capacity 102,200 barrels.
	Face (feet)	Lower side (feet)	Upper side (feet)																																																																																																																				
Dimensions	40	16	16																																																																																																																				
Depth Alongside at MLLW	15-10	-	-																																																																																																																				
Usable Berthing Space	100 w/dolphins	-	-																																																																																																																				
Width of Apron	Open.																																																																																																																						
Height of Deck above MLLW	14																																																																																																																						
Load Capacity per Sq. Ft. (Lbs.)	-																																																																																																																						
Lighted or Unlighted	Lighted.																																																																																																																						
Storage Space																																																																																																																							
Covered (Transit Sheds)	None.																																																																																																																						
Cargo Type (Bulk, Container, Etc.)																																																																																																																							
Number and Type of Construction	Dock was constructed prior to 1950.																																																																																																																						
Length and Width (Feet)																																																																																																																							
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Tank (Other than Petroleum)																																																																																																																							
Mechanical Handling Facilities	None.																																																																																																																						
Pipelines	Two 6- and one 4-inch pipelines.																																																																																																																						
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.																																																																																																																						
Railway Connections	One surface, spur track serves the Shell Oil Company plant in rear; joins Stockton Public Belt Railroad which is served by So. Pac. Co., The AT&SF RR and The Western																																																																																																																						
Highway Connections	Pac. Co. RR. Via private drive (access), unpaved 10 feet wide from N Street, paved, 20 feet wide.																																																																																																																						
Electric Current (Available to Vessels)	None.																																																																																																																						
Fire Protection (Other than City)	Hand extinguishers, hose reels, and chemical cart.																																																																																																																						
Remarks	Two 6- and one 4-inch pipelines connect dock with 13 steel, storage tanks in rear, total capacity 102,200 barrels.																																																																																																																						

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
2	Shell Oil Company	13	102,200
Total		13	102,200

PIERS, WHARVES, AND DOCKS

Reference Number on Map	3		
Name	Mobile Oil Company Dock		
Location on Waterfront	Approximately 0.28 miles east of foot of First Street. Rough and Ready Island.		
Owned by	Mobile Oil Company.		
Operated by	Mobile Oil Company.		
Purpose for which Used	Receipt of petroleum products.		
Type of Construction	Timber pile, timber-decked offshore dock, with 40- by 8-foot, combination approach and pipeline trestle; timber pile, mooring dolphins at each side in line with face.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	40	14	15
Depth Alongside at MLLW	12-10	-	-
Usable Berthing Space	100 w/dolphins	-	-
Width of Apron	Open.		
Height of Deck above MLLW	14		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed prior to 1950.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	One 6- and one 4-inch pipelines.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	One surface, spur track serves the Mobile Oil Co. plant in rear; joins Stockton Public Belt Railroad which is served by the So. Pac. Co., The AT&SF RR, and The Western Pac. RR.		
Highway Connections	Via private drive (access), unpaved, 10 feet wide from N Street, paved, 20 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hand extinguishers.		
Remarks	One 6- and one 4-inch pipelines connect dock with 7 steel, storage tanks in rear, total capacity 79,700 barrels.		

OIL-HANDLING FACILITIES

Reference
Number
On Map

Operator and/or user

Number

Capacity
(barrels)

3

Mobile Oil Company

7

79,700

Total

7

79,700

PIERS, WHARVES, AND DOCKS

Reference Number on Map	4		
Name	Port of Stockton Oil Barge Dock.		
Location on Waterfront	Right bank of San Joaquin River, south side of Stockton Deep Water Channel.		
Owned by	Stockton Port District		
Operated by	Stockton Port District		
Purpose for which Used	Receipt of petroleum products by barge (see remarks).		
Type of Construction	Timber pile, timber-decked, offshore wharf with 39- by 10-foot, combination approach and pipeline trestle; timber pile, mooring dolphins in line with face.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	40	16	16
Depth Alongside at MLLW	15-16	--	--
Usable Berthing Space	160 w/dolphin	--	--
Width of Apron	open		
Height of Deck above MLLW	12.5		
Load Capacity per Sq. Ft. (Lbs.)	--		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in 1952.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	See remarks		
Mechanical Handling Facilities	None		
Pipelines	Three 8-in. petroleum pipeline.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 2-inch line and hose.		
Railway Connections	None		
Highway Connections	Via Port District Road A.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Hose reel, hydrant and hand extinguishers.		
Remarks	Three 8-in. pipelines connect wharf with following private oil terminals located at southeast corner of W. Washington Street and Navy Drive. Atlantic Richfield Oil Corporation: 7 tanks, 36,500 bbl.; Time Oil Company: 8 tanks, 115,500 bbl.; Signal Oil Company: 5 tanks, 45,000 bbl.; Western Pacific Railroad: 1 tank, 35,000 bbl.; Sunland Refining Corp: 3 tanks, (over).		

4 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	4		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities			
Railway Connections			
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks	30,000 bbl.; Southern Pacific Pipe Lines, Inc.: 6 tanks, 207,000 bbl. An additional 8-in. pipeline extends from Berth 12-13 (Ref. No. 5), and connects with one of above 3 lines.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
4	Stockton Port District		
	Atlantic Richfield Co.	7	36,500
	Time Oil Co.	8	115,500
	Southern Pacific Pipe Lines, Inc. (Also serves facilities ST-5 & ST-6)	6	207,000
	Western Pacific Railroad	1	35,000
	Signal Oil and Gas Co.	5	45,000
	Sunland Refining Corp.	3	30,000
Total		30	469,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	5		
Name	Port of Stockton Bulk Material Wharf, Berth 12-13		
Location on Waterfront	Right bank of San Joaquin River, south side of Stockton Deep Water Channel.		
Owned by	Stockton Port District		
Operated by	Do		
Purpose for which Used	Shipment of dry bulk commodities, including iron ore and petroleum coke; receipt of molasses and petroleum products.		
Type of Construction	Timber pile, timber-decked, offshore wharf with 80- by 13-foot approach to north portion, and a timber catwalk approach to south end; fronted by timber pile dolphins.		
Description	Face (feet)	Lower Side (feet)	Upper Side (feet)
Dimensions	566	13.5	13.5
Depth Alongside at MLLW	35	--	--
Usable Berthing Space	566		
Width of Apron	open		
Height of Deck above MLLW	13.4		
Load Capacity per Sq. Ft. (Lbs.)	--		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Wharf was constructed in 1952.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Bulk minerals		
Area (Acres)	3.5		
Surfacing Type	Unimproved		
Tank (Other than Petroleum)	See remarks of Ref. 6		
Mechanical Handling Facilities	Loading tower supported on pile structure at rear of wharf has 60-ft., hinged boom (with 35-ft. outboard reach and height of 52 ft. above water) equipped with 36-in. wide electric belt conveyor, and 20-in. diam. gravity, vessel-loading spout and mechanical trimming head; tower served (over)		
Pipelines	One 12-inch jet fuel line; one 10-inch molasses line.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	Stockton Public Belt Railroad: 2 inclined tracks in rear serve rotary car dumper (one track for loaded cars and one (over)		
Highway Connections	Via Port District Road A.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Lines, hoses, and hand extinguishers.		
Remarks	Car dumper has an operating rate of 550 tons iron ore/hr.; hopper under dumper serves inclined, electric belt conveyor extending to and horizontally on an 800-ft. long elevated, timber trestle on which travels a stacker with 2 belt conveyor booms to storage area with capacity for 40,000 tons. Bulldozers transfer stored materials to receiving pits serving electric belt conveyor systems extending to loading towers.		

(5 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	5		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	by an inclined, 36-in. wide electric belt conveyor system extending from storage area; maximum vessel iron ore loading rate 800 long tons per hour. Two small bulldozers used for trimming cargo in holds of vessels.		
Pipelines			
Water Supply and Waste Treatment Facilities			
Railway Connections	empty return). Tracks serving car dumper join 260-car capacity yard served by the Southern Pacific Company, The Atchison, Topeka and Santa Fe Railway, and The Western Pacific Railroad.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

OIL-HANDLING FACILITIES

Reference
Number
On Map

Operator and/or user

Number

Capacity
(barrels)

5

Stockton Port District

Southern Pacific Pipe Lines, Inc.
(Also serves facilities ST-4 & ST-6)

6

207,000

Total

6

207,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	6		
Name	Port of Stockton Container Wharf, Berth 10 11.		
Location on Waterfront	South side of Stockton Deep Water Channel, east of junction with San Joaquin River.		
Owned by	Stockton Port District		
Operated by	Stockton Port District		
Purpose for which Used	Shipment and receiving of containers.		
Type of Construction	Reinforced precast concrete piles, concrete slab topped with crushed aggregates and 8-inch asphalt pavement; concrete fenders with rubber bumpers.		
Description	Face (feet)		
Dimensions	810.5		
Depth Alongside at MLLW	32		
Usable Berthing Space	1,010 w/dolphin		
Width of Apron	810.5		
Height of Deck above MLLW	15.5		
Load Capacity per Sq. Ft. (Lbs.)	1,000		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Container Berth was constructed in 1969.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	Container		
Area (Acres)	4		
Surfacing Type	Asphalt on concrete slab		
Tank (Other than Petroleum)	See remarks		
Mechanical Handling Facilities	Port District has applied to the Economic Development Administration, Dept. of Commerce, for a grant to purchase a 100-foot offshore container crane. Tracks for crane presently installed.		
Pipelines	One 12-inch jet fuel line; one 10-inch molasses line.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 2-inch connection from 4-inch line at 30 p.s.i.		
Railway Connections	No		
Highway Connections	Port District Roads 6, 7, and 8.		
Electric Current (Available to Vessels)	220 volts, 3-phase, 60-cycle		
Fire Protection (Other than City)	Hydrant, hand extinguisher, and hose		
Remarks	Electrical outlets are installed at west end of dock for reefer vans. Face of wharf is in line and continuous with face of Berth 9 (Ref. No. 7), providing a total of 1,455.5 feet of berthing. California Molasses Co. and National Molasses Co.: one 10-inch pipeline extends from east end of wharf, with extension to adjacent Berth 9 to 16 steel, storage tanks, total (over)		

(6 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	6		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities			
Railway Connections			
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks	capacity 219,000 barrels. Southern Pacific Pipe Lines, Inc.: one 12-inch pipeline extends from wharf to 6 steel, storage tanks described under Ref. No. 4. Two general warehouse (units 1 through 6) located in rear. Total area: 320,000 sq. ft.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
6	Stockton Port District Southern Pacific Pipe Line, Inc. (Also serves facilities ST-4 & ST-5)	6	207,000
Total		6	207,000

PIERS, WHARVES, AND DOCKS

Reference Number on Map	7																																																																																																																								
Name	Port of Stockton General Cargo Wharf, Berth 2																																																																																																																								
Location on Waterfront	South side of channel between junction of San Joaquin River and Slip No. 1.																																																																																																																								
Owned by	Stockton Port District																																																																																																																								
Operated by	Stockton Port District																																																																																																																								
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade; receipt of molasses.																																																																																																																								
Type of Construction	Concrete-capped, timber piles supporting concrete pedestals with concrete deck, fronted by timber fender system.																																																																																																																								
Description	<table border="1"> <thead> <tr> <th></th> <th>Face (feet)</th> <th>Upper Side (feet)</th> <th></th> </tr> </thead> <tbody> <tr> <td>Dimensions</td> <td>645</td> <td>75</td> <td></td> </tr> <tr> <td>Depth Alongside at MLLW</td> <td>37-34</td> <td>35</td> <td></td> </tr> <tr> <td>Usable Berthing Space</td> <td>645</td> <td>110 w/dolphin</td> <td></td> </tr> <tr> <td>Width of Apron</td> <td>41.25</td> <td>Open</td> <td></td> </tr> <tr> <td>Height of Deck above MLLW</td> <td>15.5</td> <td></td> <td></td> </tr> <tr> <td>Load Capacity per Sq. Ft. 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(Lbs.)</td> <td colspan="3">750 on piles; 1,000 on fill</td> </tr> <tr> <td>Cargo Doors</td> <td colspan="3">Shipside; sixteen 18 by 15 feet; and one 24- by 16-foot, (over)</td> </tr> <tr> <td>Open</td> <td colspan="3"></td> </tr> <tr> <td>Cargo Type</td> <td colspan="3">None</td> </tr> <tr> <td>Area (Acres)</td> <td colspan="3"></td> </tr> <tr> <td>Surfacing Type</td> <td colspan="3"></td> </tr> <tr> <td>Tank (Other than Petroleum)</td> <td colspan="3">None</td> </tr> <tr> <td>Mechanical Handling Facilities</td> <td colspan="3">Forklift trucks and other types of cargo-handling equipment, owned by the Port District and by stevedoring companies, are available as needed.</td> </tr> <tr> <td>Pipelines</td> <td colspan="3">None</td> </tr> <tr> <td>Water Supply and Waste Treatment Facilities (Available to Vessels).</td> <td colspan="3">Through 4-inch line with four 2-inch connector-adaptors, each with fixed meter.</td> </tr> <tr> <td>Railway Connections</td> <td colspan="3">Stockton Public Belt Railroad; two 510-foot, platform-level tracks along rear of transit shed. Stockton Public Belt Railroad is served by the Southern Pacific Company, (over)</td> </tr> <tr> <td>Highway Connections</td> <td colspan="3">Via Port District Road A (access) asphalt, 15 feet wide from Roads 5, 6, and 7.</td> </tr> <tr> <td>Electric Current (Available to Vessels)</td> <td colspan="3">A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, 3-phase, 60-cycle.</td> </tr> <tr> <td>Fire Protection (Other than City)</td> <td colspan="3">Sprinkler system inside shed, hydrants, hose reels, and hand extinguishers.</td> </tr> <tr> <td>Remarks:</td> <td colspan="3">Storage warehouse (A-1) cotton compress located in rear. Slip No. 1 at upper side of wharf is approximately 1,000 by 251 feet. Face of wharf is in line and contiguous with face of adjacent Berth 10-11 (Ref. No. 6) providing a total of 1,455.5 feet of berthing space.</td> </tr> </tbody></table>		Face (feet)	Upper Side (feet)		Dimensions	645	75		Depth Alongside at MLLW	37-34	35		Usable Berthing Space	645	110 w/dolphin		Width of Apron	41.25	Open		Height of Deck above MLLW	15.5			Load Capacity per Sq. Ft. (Lbs.)	750			Lighted or Unlighted	Lighted			Storage Space	Shed No. 9: steel frame, with 5-foot high concrete walls topped with corrugated, sheet metal siding; asphalt-surfaced, concrete floor.			Covered (Transit Sheds)				Cargo Type (Bulk, Container, Etc.)	Wharf was constructed in 1936			Number and Type of Construction				Length and Width (Feet)	540 by 157.8			Height Inside (Feet)	20			Floor Area for Cargo (Sq. Ft.)	85,228			Load Capacity per Sq.Ft. (Lbs.)	750 on piles; 1,000 on fill			Cargo Doors	Shipside; sixteen 18 by 15 feet; and one 24- by 16-foot, (over)			Open				Cargo Type	None			Area (Acres)				Surfacing Type				Tank (Other than Petroleum)	None			Mechanical Handling Facilities	Forklift trucks and other types of cargo-handling equipment, owned by the Port District and by stevedoring companies, are available as needed.			Pipelines	None			Water Supply and Waste Treatment Facilities (Available to Vessels).	Through 4-inch line with four 2-inch connector-adaptors, each with fixed meter.			Railway Connections	Stockton Public Belt Railroad; two 510-foot, platform-level tracks along rear of transit shed. Stockton Public Belt Railroad is served by the Southern Pacific Company, (over)			Highway Connections	Via Port District Road A (access) asphalt, 15 feet wide from Roads 5, 6, and 7.			Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, 3-phase, 60-cycle.			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Pipelines	None																																																																																																																								
Water Supply and Waste Treatment Facilities (Available to Vessels).	Through 4-inch line with four 2-inch connector-adaptors, each with fixed meter.																																																																																																																								
Railway Connections	Stockton Public Belt Railroad; two 510-foot, platform-level tracks along rear of transit shed. Stockton Public Belt Railroad is served by the Southern Pacific Company, (over)																																																																																																																								
Highway Connections	Via Port District Road A (access) asphalt, 15 feet wide from Roads 5, 6, and 7.																																																																																																																								
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220/440 volts, 3-phase, 60-cycle.																																																																																																																								
Fire Protection (Other than City)	Sprinkler system inside shed, hydrants, hose reels, and hand extinguishers.																																																																																																																								
Remarks:	Storage warehouse (A-1) cotton compress located in rear. Slip No. 1 at upper side of wharf is approximately 1,000 by 251 feet. Face of wharf is in line and contiguous with face of adjacent Berth 10-11 (Ref. No. 6) providing a total of 1,455.5 feet of berthing space.																																																																																																																								

(7 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	7		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors	truck access door at each end; rear; eight 15- by 15-foot		
Open	doors along rail platform, and one truck access door; all		
Cargo Type	steel rollup.		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	The Atchison, Topeka and Santa Fe Railway, and The Western Pacific Railroad.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	8		
Name	Fireboat Dock		
Location on Waterfront	Northwest corner of Slip No. 1		
Owned by	Stockton Port District		
Operated by	City of Stockton		
Purpose for which Used	Mooring for city fireboat and harbor patrol craft.		
Type of Construction	Row of timber piles to secure floating boathouses and boat slip. Catwalk-ramp extends from bank.		
Description	Outer End (feet)	Side (feet)	
Dimensions	28.5	95	
Depth Alongside at MLLW	15	15	
Usable Berthing Space	28.5	95	
Width of Apron	open		
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted	Partly lighted		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	None		
Number and Type of Construction	Dock was relocated in 1969.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 1-inch line and hose.		
Railway Connections	None		
Highway Connections	Via Port Districts Roads 5 and C.		
Electric Current (Available to Vessels)	A.C., 110 volts, single phase, 60-cycle.		
Fire Protection (Other than City)	Waterline and hose.		
Remarks	The city of Stockton Fire Department maintains a fireboat at the large boathouse, with a crew supplied from the city fire station as required; smaller boathouse used for mooring harbor patrol boat.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	8A (Molasses Berth)		
Name	Port of Stockton Molasses Dock, Berth 8A.		
Location on Waterfront	Southwest corner of Slip 1		
Owned by	Stockton Port District		
Operated by	Stockton Port District		
Purpose for which Used	Receiving of molasses		
Type of Construction	Timber piles supporting wood decking.		
Description	West Dock (feet)	East Dock (feet)	
Dimensions	100	100	
Depth Alongside at MLLW	16	16	
Usable Berthing Space	330 in combination		
Width of Apron	4	4	
Height of Deck above MLLW	10	10	
Load Capacity per Sq. Ft. (Lbs.)	--	--	
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Berth was constructed in 1969		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	See remarks		
Mechanical Handling Facilities	None		
Pipelines	One 12-inch molasses line.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 1-inch line.		
Railway Connections	None		
Highway Connections	Port Districts Roads 5 and C.		
Electric Current (Available to Vessels)	A.C., 110 volts, single phase.		
Fire Protection (Other than City)	Hand extinguishers.		
Remarks	Mooring docks for molasses barges. Three molasses companies located in terminal area, total of 26 tanks, 361,000 bbls. capacity.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	9
Name	Port of Stockton Wharf No. 8
Location on Waterfront	Inner portion of eastern side of Slip No. 1
Owned by	Stockton Port District
Operated by	Stockton Port District
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade; shipment of wine by ocean tanker "California"; receipt of molasses.
Type of Construction	Timber piling below water level supporting concrete sub-structure and concrete deck with timber rail trestle at inner end in line with face; fronted by timber fender system.
Description	Face (feet)
Dimensions	396+88
Depth Alongside at MLLW	37-36
Usable Berthing Space	484 w/trestle (see remarks)
Width of Apron	31 and open trestle
Height of Deck above MLLW	15.5
Load Capacity per Sq. Ft. (Lbs.)	400
Lighted or Unlighted	Lighted
Storage Space	Shed No. 8: steel frame with corrugated sheet metal siding; asphalt-surfaced, concrete floor; concrete firewall between Sheds 8 and 7.
Covered (Transit Sheds)	
Cargo Type (Bulk, Container, Etc.)	
Number and Type of Construction	Wharf was constructed in 1936.
Length and Width (Feet)	395 by 128 and 146
Height Inside (Feet)	sides 13; center 26
Floor Area for Cargo (Sq. Ft.)	54,215
Load Capacity per Sq.Ft. (Lbs.)	400 on piles; 1,000 on fill
Cargo Doors	Shipside: fifteen steel, rollup 14 by 13 feet; one truck (over)
Open	
Cargo Type	None
Area (Acres)	
Surfacing Type	
Tank (Other than Petroleum)	See remarks
Mechanical Handling Facilities	One 32-foot, hinged boom located on edge of transit shed roof 196 feet from inshore end; boom has outboard reach of 11.5 feet, and supports four 6-inch, stainless steel pipelines for loading wine. Forklift trucks and other types of cargo-handling equipment, owned by the Port District and by stevedoring companies, are available as needed.
Pipelines	Four 6-inch pipelines to wine storage tanks located between roads A and C. One 10-inch molasses line to storage tanks in rear (see remarks).
Water Supply and Waste Treatment Facilities	Through 2-inch line and portable meters.
(Available to Vessels)	
Railway Connections	Stockton Public Belt Railroad: two surface tracks on apron, total length 792 feet, continue on apron of (over)
Highway Connections	Via Port District Rd. 4 (access), concrete, 30 ft. wide; by Rd. C (access), paved, 15 ft. wide. Truck access to apron by RR trestle approach.
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220 volts, 3-phase, 60-cycle.
Fire Protection (Other than City)	Sprinkler system inside shed; hydrants, hose reels, and hand extinguishers.
Remarks	Face of wharf is in line and continuous with face of adjacent Wharf No. 7 (Ref. No. 10) providing a total of 1,000 feet of berthing. Pacific Molasses Company, Ltd: one 10-inch pipeline extends from wharf to 6 steel, storage tanks located in rear, total capacity 142,000 bbl. Italian Swiss Colony, Inc.: four elevated, 6-inch, stainless steel pipelines extend to hinged (over)

(9 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	9		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors	access door at each end; rear: eight sliding 14 by 10 feet.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	of adjacent Wharf No. 7 (Ref. No. 10); and 2 platform-level tracks along rear of transit shed, total length 730 feet. Tracks are served by same railroads as mentioned under Ref.		
Highway Connections	No. 7.		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks	boom on transit shed roof from 26 stainless steel, wine storage tanks (under roof) located between Roads A and C in rear, total capacity 2,490,863 gal.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	10		
Name	Port of Stockton Wharf No. 7		
Location on Waterfront	Outer portion of eastern side of Slip No. 1		
Owned by	Stockton Port District		
Operated by	Stockton Port District		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Timber piling below water level supporting concrete sub-structure and concrete deck; fronted by timber fender system.		
Description	Face (feet)		
Dimensions	516		
Depth Alongside at MLLW	37-36		
Usable Berthing Space	516 (see remarks)		
Width of Apron	31		
Height of Deck above MLLW	15.5		
Load Capacity per Sq. Ft. (Lbs.)	400		
Lighted or Unlighted	Lighted		
Storage Space Covered (Transit Sheds) Cargo Type (Bulk, Container, Etc.)	Shed No. 7: irregularly shaped, steel frame, corrugated sheet metal siding; asphalt-surfaced, concrete floor; concrete firewall between Sheds 7 and 6.		
Number and Type of Construction	Wharf was constructed in 1936.		
Length and Width (Feet)	320 to 179 by 150		
Height Inside (Feet)	sides 13; center 26		
Floor Area for Cargo (Sq. Ft.)	37,658		
Load Capacity per Sq.Ft. (Lbs.)	400 on piles; 1,000 on solid fill		
Cargo Doors	Shipside: thirteen steel, rollup, 14 by 13 feet; rear: (over)		
Open Cargo Type	See remarks		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None		
Mechanical Handling Facilities	Forklift trucks and other types of cargo-handling equipment, owned by the Port District and stevedoring companies, are available as needed.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 2-inch line and portable meters.		
Railway Connections	Stockton Public Belt Railroad: two surface tracks on apron, total length 920 feet, are a continuation of tracks (over)		
Highway Connections	Via Port District Road 4 (access), concrete, 30 feet wide; truck access to apron via railroad trestle at inner end of slip.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Sprinkler system, hydrants, hose reels, and hand extinguishers.		
Remarks	Face of wharf is in line and continuous with face of adjacent Wharf No. 8 (Ref. No. 9), providing a total of 1,000 feet of berthing. Approx. 30,000 square feet of paved, open storage area is located adjacent to south end of Transit Shed No. 8 (Ref. No. 9).		

(10 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	10		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors	three sliding, 14 by 10 feet; doorway through firewall to		
Open	Shed 8.		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	on adjacent Wharf No. 8 (Ref. No. 9); and 2 platform-level tracks along rear of transit shed, total length 350 feet. Tracks are served by same railroads as mentioned under Ref.		
Highway Connections	No. 7.		
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	11
Name	Port of Stockton Wharf No. 6
Location on Waterfront	East of entrance to Slip No. 1
Owned by	Stockton Port District
Operated by	Stockton Port District
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.
Type of Construction	Timber piling below water level supporting concrete sub-structure and concrete deck; fronted by timber fender system.
Description	Face (feet)
Dimensions	418
Depth Alongside at MLLW	37-36
Usable Berthing Space	418 (see remarks)
Width of Apron	31
Height of Deck above MLLW	15.5
Load Capacity per Sq. Ft. (Lbs.)	400
Lighted or Unlighted	Lighted
Storage Space Covered (Transit Sheds) Cargo Type (Bulk, Container, Etc.)	Shed No. 6: steel frame, corrugated sheet metal siding; asphalt-surfaced, concrete floor; concrete firewall between Sheds 6 and 5.
Number and Type of Construction	Wharf was constructed in 1936.
Length and Width (Feet)	330 to 260 by approx. 90
Height Inside (Feet)	sides 13; center 26
Floor Area for Cargo (Sq. Ft.)	26,478
Load Capacity per Sq.Ft. (Lbs.)	400 on piles; 1,000 on solid fill
Cargo Doors	Shipside: fifteen steel, rollup, 14 by 13 feet; one rear (over)
Open Cargo Type	None
Area (Acres)	
Surfacing Type	
Tank (Other than Petroleum)	None
Mechanical Handling Facilities	Same as Ref. No. 10.
Pipelines	None
Water Supply and Waste Treatment Facilities (Available to Vessels)	Same as Ref. No. 10.
Railway Connections	Stockton Public Belt Railroad: two surface tracks on apron, total length 720 feet, are a continuation of tracks (over)
Highway Connections	Same as Ref. No. 10.
Electric Current (Available to Vessels)	Same as Ref. No. 10.
Fire Protection (Other than City)	Same as Ref. No. 10.
Remarks	Face of wharf is in line and continuous with faces of Wharves Nos. 5, 4, and 3 (Ref. Nos. 12, 13, and 14), providing a total of 1,769 feet of berthing.

(11 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	11		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors	door 14 by 10 feet; doorway through firewall to Shed 5.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	on Wharves Nos. 5, 4, and 3 (Ref. Nos. 12, 13 and 14); rear of transit shed can be served by same tracks serving rear of Shed No. 7 (Ref. No. 10). Tracks are served by same railroads as mentioned under Ref. No. 7.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	12		
Name	Port of Stockton Wharf No. 5		
Location on Waterfront	418 feet east of entrance to Slip No. 1		
Owned by	Stockton Port District		
Operated by	Stockton Port District		
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.		
Type of Construction	Timber piling below water level supporting concrete sub-structure and concrete deck; fronted by timber fender system.		
Description	Face (feet)		
Dimensions	428		
Depth Alongside at MLLW	34-32		
Usable Berthing Space	428 (see remarks)		
Width of Apron	31		
Height of Deck above MLLW	15.5		
Load Capacity per Sq. Ft. (Lbs.)	400		
Lighted or Unlighted	Lighted		
Storage Space	Shed No. 5: steel frame, corrugated sheet metal sliding; asphalt-surfaced, concrete floor; concrete firewall		
Covered (Transit Sheds)	between Sheds 5 and 4.		
Cargo Type (Bulk, Container, Etc.)	Wharf was constructed in 1936.		
Number and Type of Construction	429 by 149		
Length and Width (Feet)	sides 13; center 26		
Height Inside (Feet)	61,595		
Floor Area for Cargo (Sq. Ft.)	400 on piles; 1,000 on solid fill		
Load Capacity per Sq.Ft. (Lbs.)	Shipside: sixteen steel, rollup, 14 by 13 feet; (over)		
Cargo Doors	None		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None		
Mechanical Handling Facilities	Same as Ref. No. 10.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Same as Ref. No. 10.		
Railway Connections	Stockton Public Belt Railroad: two surface tracks on apron, total length 856 feet, are continuation of tracks (over)		
Highway Connections	Via Port District Road B (access and marginal), paved, 20 feet wide from Roads 4, 3, and 2 (all approach), paved, 20 to 30 feet wide.		
Electric Current (Available to Vessels)	Same as Ref. No. 10.		
Fire Protection (Other than City)	Same as Ref. No. 10.		
Remarks	Face of wharf is in line and continuous with faces of Wharves Nos. 6, 4, and 3 (Ref. Nos. 11, 13, and 14), providing a total of 1,769 feet of berthing.		

(12 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	12		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors	one 14 by 15 feet; six sliding, 14 by 10 feet; doorway		
Open	through firewall to Shed 4.		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	on Wharves Nos. 6, 4, and 3 (Ref. Nos. 11, 13, and 14); and 3 platform-level tracks along rear of transit shed, total length 1,200 feet. Tracks are served by same railroads as mentioned under Ref. No. 7.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	13		
Name	Port of Stockton Wharf No. 4		
Location on Waterfront	South side of Stockton Deep Water Channel, 846 feet east of entrance to Slip No. 1.		
Owned by	Stockton Port District		
Operated by	Stockton Port District		
Purpose for which Used	Receipt of bulk phosphate rock from self-unloading barges and ships; shipment of bulk fertilizer.		
Type of Construction	Timber piling below water level supporting concrete sub-structure and concrete deck; fronted by timber fender system.		
Description	Face (feet)		
Dimensions	461		
Depth Alongside at MLLW	34-32		
Usable Berthing Space	461		
Width of Apron	31		
Height of Deck above MLLW	15.5		
Load Capacity per Sq. Ft. (Lbs.)	400		
Lighted or Unlighted	Lighted		
Storage Space	Shed No. 4: steel frame, corrugated metal siding; asphalt-surfaced, concrete floor; concrete firewalls between Sheds 4, 5, and 3.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)	Wharf was constructed in 1933.		
Number and Type of Construction	461 by 150 and 127		
Length and Width (Feet)	sides 13; center 26		
Height Inside (Feet)	62,000		
Floor Area for Cargo (Sq. Ft.)	400 on piles; 1,000 on solid fill		
Load Capacity per Sq. Ft. (Lbs.)	Shipside: eighteen 14 by 10 feet; and one 14 by 13 feet, (over)		
Cargo Doors			
Open			
Cargo Type	See Remarks		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None		
Mechanical Handling Facilities	One hinged, electric, belt conveyor boom on edge of transit shed roof with outboard reach of 30 ft.; boom equipped with 30-in. belt conveyor and loading spout with mechanical trimmer; loading rate 275 long tons per hr. A gallery (over)		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through 2-inch line and portable meter.		
Railway Connections	Stockton Public Belt Railroad: two surface tracks on apron, total length 922 feet, are continuation of tracks (over)		
Highway Connections	Via Port District Road B (access and marginal), paved, 20 feet wide, from Roads 2, 3, and 4 (all approach), paved, 20 to 30 feet wide.		
Electric Current (Available to Vessels)	A.C. 220/440 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Sprinkler system, hydrants, hose reels, and hand extinguishers.		
Remarks	Additional bulk storage available at open, concrete-paved area (62,824 sq. ft.) located adjacent to south end of warehouse.		

(15-Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	13		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors	rear: nine 14 by 10 feet and one truck access door;		
Open	doorway through firewall to Shed 3.		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	with 30-in., reversible, electric belt conveyor serves boom and extends across top of transit shed to a 1-story, 2-sec. (Units A and B), bulk storage warehouse located in rear between Roads 3 and 4, total storage capacity 55,000 long tons. Bucket elevator in Shed 4 for receiving phosphate rock, transfer rate 600 tons per hour.		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	on Wharves 6, 5, and 3 (Ref. Nos. 11, 12, and 14); and 2 platform-level tracks along rear of transit shed, total length 810 feet. Tracks are served by same railroads as mentioned under Ref. No. 7.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	14
Name	Port of Stockton Wharf No. 3
Location on Waterfront	South side of Stockton Deep Water Channel, at entrance to Turning Basin.
Owned by	Stockton Port District
Operated by	Stockton Port District
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade.
Type of Construction	Timber piling below water level supporting concrete sub-structure and concrete deck; fronted by timber fender system.
Description	
	Face (feet)
Dimensions	461
Depth Alongside at MLLW	34-32
Usable Berthing Space	461
Width of Apron	31
Height of Deck above MLLW	15.5
Load Capacity per Sq. Ft. (Lbs.)	400
Lighted or Unlighted	Lighted
Storage Space Covered (Transit Sheds) Cargo Type (Bulk, Container, Etc.)	Shed No. 3: steel frame, corrugated metal siding; asphalt-surfaced, concrete floor; concrete firewall between Sheds 3 and 4.
Number and Type of Construction	Wharf was constructed in 1933.
Length and Width (Feet)	461 by 150 and 127
Height Inside (Feet)	sides 13; center 26
Floor Area for Cargo (Sq. Ft.)	61,600
Load Capacity per Sq.Ft. (Lbs.)	400 in piles; 1,000 on solid fill
Cargo Doors	Shipside: seventeen 14 by 10 feet; east end: one 14 by (over)
Open Cargo Type	None
Area (Acres)	
Surfacing Type	
Tank (Other than Petroleum)	None
Mechanical Handling Facilities	Forklift trucks and other types of cargo-handling equipment, owned by the Port District and by stevedoring companies, are available as needed.
Pipelines	None
Water Supply and Waste Treatment Facilities (Available to Vessels)	Same as Ref. No. 13.
Railway Connections	Stockton Public Belt Railroad: two surface tracks on apron, total length about 750 feet, are continuation of tracks on Wharves 4, 5, and 6 (Ref. Nos. 11, 12, and 13); (over)
Highway Connections	Same as Ref. No. 13.
Electric Current (Available to Vessels)	Same as Ref. No. 13.
Fire Protection (Other than City)	Same as Ref. No. 13.
Remarks	Two 1-story warehouses located in rear of transit Sheds Nos. 3 and 4, each of brick construction and divided into 6 sections; total area 185,000 sq. ft.

(14 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	-14		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors	13 feet; rear: nine 14 by 10 feet, and one truck access		
Open	door 14 by 13 feet.		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	and 2 platform-level tracks along rear of transit shed, total length 860 feet. Tracks are served by same railroads as mentioned under Ref. No. 7.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	15
Name	Port of Stockton Open Wharf No. 2
Location on Waterfront	Southwest side of Turning Basin
Owned by	Stockton Port District
Operated by	Stockton Port District
Purpose for which Used	Receipt and shipment of general cargo in foreign and domestic trade; shipment of logs; and handling of heavy lift cargo.
Type of Construction	Timber piling below water level supporting concrete sub-structure and concrete deck; timber rail trestle extends from shore to lower side of wharf.
Description	Face (feet)
Dimensions	506
Depth Alongside at MLLW	34-31
Usable Berthing Space	506
Width of Apron	open
Height of Deck above MLLW	15.5
Load Capacity per Sq. Ft. (Lbs.)	400
Lighted or Unlighted	Lighted
Storage Space	
Covered (Transit Sheds)	None
Cargo Type (Bulk, Container, Etc.)	
Number and Type of Construction	Wharf was constructed in 1933.
Length and Width (Feet)	
Height Inside (Feet)	
Floor Area for Cargo (Sq. Ft.)	
Load Capacity per Sq.Ft. (Lbs.)	
Cargo Doors	
Open	
Cargo Type	See remarks
Area (Acres)	
Surfacing Type	
Tank (Other than Petroleum)	None
Mechanical Handling Facilities	Two diesel-electric, traveling, revolving, full-portal, gantry cranes, each with a 90-foot boom with 10-ton, auxiliary hoist; main hoist capacity 30 tons at 60-foot radius and 25 tons at 75-foot radius. Cranes straddle rail track on wharf apron, with crane rails extending along sides of rail trestle at lower end.
Pipelines	None
Water Supply and Waste Treatment Facilities (Available to Vessels)	Same as Ref. No. 13.
Railway Connections	Stockton Public Belt Railroad: one surface track on apron also serves as approach to tracks serving Wharves 3, 4, 5, and 6 (Ref. Nos. 11, 12, 13, and 14). Track joins (over)
Highway Connections	Via Port District Road 2 (access and marginal), paved, 20 feet wide, from Road A (approach), concrete, 30 feet wide.
Electric Current (Available to Vessels)	A.C. 110 volts, single-phase, 60-cycle.
Fire Protection (Other than City)	Hydrants and hose reels.
Remarks	Wharf has 39,000 square feet of open storage area with an additional 2.3 acres of open storage area in rear.

(15 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	15		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities			
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections	additional trackage serving other Stockton Port District facilities served by same railroads as mentioned under Ref No. 7.		
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	16		
Name	Stockton Elevators Grain Elevator Main Wharf		
Location on Waterfront	South side of Turning Basin		
Owned by	Stockton Elevators, Inc.		
Operated by	Stockton Elevators, Inc.		
Purpose for which Used	Shipment of grain, including safflower seed, rice, and alfalfa pellets by vessels, and by oceangoing vessels and inland waterway barges; receipt grain including wheat, barley, and safflower seed by self-unloading barges.		
Type of Construction	Timber pile, asphalt-surfaced, timber-decked wharf; square, timber dolphins indented in wharf along face; 30- by 4-foot catwalk approach to west and east ends of wharf.		
Description	Face (feet)	West Side (feet)	East Side (feet)
Dimensions	564	20	20
Depth Alongside at MLLW	37-35	--	--
Usable Berthing Space	564	--	--
Width of Apron	open and 20		
Height of Deck above MLLW	15.5		
Load Capacity per Sq. Ft. (Lbs.)	---		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Wharf was constructed in 1957.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type	None		
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None		
Mechanical Handling Facilities	Two towers on wharf, each with 13-inch diam., telescopic, mechanically operated, grainloading spout; loading rate, 900 short tons/hr. (29,877 bu.) at east tower; 800 (26,557 bu.) at west tower; combined rate, 900 short tons. Towers 160 ft. apart, are connected by an overhead gallery extending from east tower to a 5,557,000 bu. grain elevator in rear. (See Remarks.) Self-unloading barges unload grain (over)		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through connections at wharf.		
Railway Connections	Two surface tracks extend along rear of storage silos and through car shed serving car dumper and carloading spout; connect with tracks of Southern Pacific Company.		
Highway Connections	Via private drive (access), asphalt, 15 feet wide from Harbor Road (approach), concrete, 15 feet wide.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 440 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Hydrants, hose, hand extinguishers, and watchmen.		
Remarks	Grain gallery connecting towers on wharf has a 30-inch, electric belt conveyor; and gallery extending from east tower to grain elevator has two 30-inch, belt conveyors.		

(16 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	16		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	into a deck-level, receiving hopper on wharf connected to grain elevator by an underground, 30-in. belt conveyor; rate, 450 short tons/hr. (14,920 bu.).		
Pipelines			
Water Supply and Waste Treatment Facilities (Available to Vessels)			
Railway Connections			
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	17		
Name	Stockton Elevators Barge Wharf		
Location on Waterfront	Southeast side of Turning Basin, below entrance to Mormon Channel.		
Owned by	Stockton Elevators, Inc.		
Operated by	Stockton Elevators, Inc.		
Purpose for which Used	Receipt of grain, including barley and rice, by self-unloading barges.		
Type of Construction	Timber pile, timber-decked, offshore platform with catwalk extending to top of bank along conveyor gallery; row of timber pile dolphins in line with face of platform.		
Description	Face (feet)	North Side (feet)	South Side (feet)
Dimensions	17	15	15
Depth Alongside at MLLW	28-16	-	-
Usable Berthing Space	160 w/dolphin	-	-
Width of Apron	open		
Height of Deck above MLLW	9		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Barge Wharf was constructed in 1957.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open	None		
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None		
Mechanical Handling Facilities	Grain is received from self-unloading barges equipped with belt elevator leg with one spout; receiving and handling capacity is 450 short tons per hour (14,920 bu.). A receiving hopper is located on deck of wharf platform which serves a low-level, grain gallery extending 210 feet to 4 concrete storage silos in rear; grain gallery is equipped with a 30-inch, electric belt conveyor.		
Pipelines	None		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None		
Railway Connections	See Ref. No. 16.		
Highway Connections	Same as Ref. No. 16.		
Electric Current (Available to Vessels)	None		
Fire Protection (Other than City)	Equipment available from shore facilities.		
Remarks:	Four storage silos in rear have a total capacity for 12,000 short tons of rice, which is stored for overseas shipment. The silos are connected to grain elevator, described under Ref. No. 16, by an overhead grain gallery equipped with an electric belt conveyor.		

(17 Cont'd)
PIERS, WHARVES, AND DOCKS

Reference Number on Map	17		
Name			
Location on Waterfront			
Owned by			
Operated by			
Purpose for which Used			
Type of Construction			
Description			
Dimensions			
Depth Alongside at MLLW			
Usable Berthing Space			
Width of Apron			
Height of Deck above MLLW			
Load Capacity per Sq. Ft. (Lbs.)			
Lighted or Unlighted			
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	serves a low-level, grain gallery extending 210 feet to 4 concrete storage silos in rear; grain gallery is equipped with a 30-inch, electric belt conveyor.		
Pipelines			
Water Supply and Waste Treatment Facilities			
Railway Connections			
Highway Connections			
Electric Current (Available to Vessels)			
Fire Protection (Other than City)			
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	18
Name	Southern Pacific Company Mormon Channel Mooring Dock.
Location on Waterfront	West side of Mormon Channel near entrance.
Owned by	Southern Pacific Company.
Operated by	Southern Pacific Company
Purpose for which Used	Inactive
Type of Construction	Timber pile, timber-decked dock.
Description	
	Face (feet)
Dimensions	629
Depth Alongside at MLLW	10-5
Usable Berthing Space	500 approx. (See Remarks.)
Width of Apron	Open.
Height of Deck above MLLW	9
Load Capacity per Sq. Ft. (Lbs.)	See Remarks
Lighted or Unlighted	Unlighted.
Storage Space	
Covered (Transit Sheds)	None.
Cargo Type (Bulk, Container, Etc.)	
Number and Type of Construction	Dock was constructed prior to 1950.
Length and Width (Feet)	
Height Inside (Feet)	
Floor Area for Cargo (Sq. Ft.)	
Load Capacity per Sq. Ft. (Lbs.)	
Cargo Doors	
Open	
Cargo Type	
Area (Acres)	
Surfacing Type	
Tank (Other than Petroleum)	
Mechanical Handling Facilities	None.
Pipelines	---
Water Supply and Waste Treatment Facilities (Available for Vessels)	None.
Railway Connections	None.
Highway Connections	Via private drive (access), asphalt, 15 feet wide from Harbor Road (approach), concrete, 15 feet wide.
Electric Current (Available to Vessels)	None.
Fire Protection (Other than City)	None.
Remarks	Southern Pacific Company has open area in rear for the storage of bulk grain. At time of survey, dock was in poor condition and approximately 129 feet were in ruins.

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
18	Southern Pacific Company.*	6	207,000
Total		6	207,000

*Two steel tanks, total capacity 160,000 bbls. connected by 12-inch pipeline to Berths 10-11 and 12-13. Other oil companies are supplied by shallow draft barges or overland pipeline.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	19		
Name	McCormick & Baxter Creosoting Co. Mooring.		
Location on Waterfront	South side of Mormon Channel, foot of South Pershing Street extended.		
Owned by	McCormick & Baxter Creosoting Company.		
Operated by	McCormick & Baxter Creosoting Company.		
Purpose for which Used	Shipment of treated timbers and piling.		
Type of Construction	Natural bank.		
Description	Natural bank (feet)		
Dimensions	1,000		
Depth Alongside at MLLW	8		
Usable Berthing Space	1,000		
Width of Apron	Open.		
Height of Deck above MLLW	-		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Mooring was constructed prior to 1950.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Mobile cranes serving open storage area and timber-treating plant are used, as needed, for placing timbers and piling into water to make into rafts for towing.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	Surface tracks serving open storage area and timber-treating plant in rear connect with tracks of the Southern Pacific Company.		
Highway Connections	Via private drive (access), unpaved, 10 feet wide from W. Washington Street (arterial).		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hydrants, hose, and pump.		
Remarks -			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	20
Name	Delta Warehouse Co. Dock.
Location on Waterfront	About 0.6 mile above Turning Basin opposite foot of N. Stockton Street.
Owned by	Delta Warehouse Company.
Operated by	Delta Warehouse Company.
Purpose for which Used	Mooring of barges.
Type of Construction	Timber pile and timber bulkhead with solid fill and timber deck.
Description	
	Face (feet)
Dimensions	428
Depth Alongside at MLLW	9
Usable Berthing Space	428
Width of Apron	3
Height of Deck above MLLW	12
Load Capacity per Sq. Ft. (Lbs.)	-
Lighted or Unlighted	Lighted.
Storage Space	None. (See Remarks.)
Covered (Transit Sheds)	
Cargo Type (Bulk, Container, Etc.)	
Number and Type of Construction	Dock was constructed prior to 1950.
Length and Width (Feet)	
Height Inside (Feet)	
Floor Area for Cargo (Sq. Ft.)	
Load Capacity per Sq.Ft. (Lbs.)	
Cargo Doors	
Open	
Cargo Type	
Area (Acres)	
Surfacing Type	
Tank (Other than Petroleum)	
Mechanical Handling Facilities	None.
Pipelines	- -
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.
Railway Connections	Two platform-level tracks along rear of building on dock, total length 856 feet; connect with Southern Pacific Company.
Highway Connections	Via private drive (access), asphalt, 10 feet wide, from W. Weber Avenue (arterial), asphalt-surfaced, concrete, 50 feet wide.
Electric Current (Available to Vessels)	None.
Fire Protection (Other than City)	Hand extinguishers and hydrants. Note: Adjacent former facilities consisting of Western Pacific Wharf and Southern Pacific Co. Wharf removed.
Remarks	The 428- by 179-foot building on dock and building in rear across tracks is used by Delta Warehouse Co. for receipt and storage of grain received by truck and rail. Building is connected by a belt conveyor gallery over tracks and equipped with grain-handling facilities. A temporary bridge for light warehouse tractors is placed across tracks between rail platforms.

PIERS, WHARVES, AND DOCKS

Reference Number on Map	21		
Name	Standard Oil Co. of Calif. Stockton Dock.		
Location on Waterfront	Tuleburg Levee, at foot of N. Edison Street.		
Owned by	City of Stockton.		
Operated by	City of Stockton.		
Purpose for which Used	Inactive.		
Type of Construction	Concrete and masonry bulkhead with concrete-surfaced, solid fill; timber pile dolphins along face. Ramp, approximately 25 feet long and 20 feet wide, extends to face at east portion of bulkhead.		
Description	Face (feet)		
Dimensions	120		
Depth Alongside at MLLW	9		
Usable Berthing Space	120		
Width of Apron	Open.		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in 1913.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	None.		
Highway Connections	Via Tuleburg Levee (access and marginal), concrete, 23 feet wide, from foot of N. Edison Street (approach), stone block 25 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	22		
Name	City of Stockton Bulkhead Dock.		
Location on Waterfront	Tuleburg Levee, between foot of N. Edison and N. Harrison Streets.		
Owned by	City of Stockton.		
Operated by	City of Stockton.		
Purpose for which Used	Inactive		
Type of Construction	Concrete and masonry bulkhead with concrete-surfaced, solid fill; a vehicular driveway slopes downward to 75-foot, center portion of bulkhead which is at a lower elevation.		
Description	Face (feet)		
Dimensions	150, approx.		
Depth Alongside at MLLW	9		
Usable Berthing Space	150, approx.		
Width of Apron	Open.		
Height of Deck above MLLW	12 and 5		
Load Capacity per Sq. Ft. (Lbs.)	---		
Lighted or Unlighted	Unlighted.		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in 1913.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	----		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	None.		
Highway Connections	Via Tuleburg Levee (access and marginal), concrete 23 feet wide, from foot of N. Edison Street (approach), stone block 25 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	23		
Name	City of Stockton Tuleburg Levee Dock.		
Location on Waterfront	Tuleburg Levee, foot of N. Harrison Street.		
Owned by	City of Stockton.		
Operated by	City of Stockton.		
Purpose for which Used	Inactive.		
Type of Construction	Concrete bulkhead with solid fill; ramp to east end of face.		
Description	Face (feet)		
Dimensions	150		
Depth Alongside at MLLW	9		
Usable Berthing Space	150		
Width of Apron	Open.		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in 1913.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	---		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	None.		
Highway Connections	Via Tuleburg Levee (access and marginal), concrete, 23 feet wide, from foot of N. Harrison Street (approach), paved, 50 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	---		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	24		
Name	City of Stockton Tuleburg Levee Dock.		
Location on Waterfront	Tuleburg Levee, above foot of N. Harrison Street.		
Owned by	City of Stockton.		
Operated by	City of Stockton.		
Purpose for which Used	Inactive.		
Type of Construction	Concrete bulkhead with solid fill; two ramps to face.		
Description	Face (feet)		
Dimensions	126		
Depth Alongside at MLLW	9		
Usable Berthing Space	126		
Width of Apron	Open.		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in 1913.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	--		
Railway Connections	None.		
Highway Connections	Via Tuleburg Levee (access and marginal), concrete, 23 feet wide, from foot of N. Harrison Street (approach), paved, 50 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	--		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	25		
Name	City of Stockton Tuleburg Levee Dock.		
Location on Waterfront	Tuleburg Levee, between foot of N. Harrison and N. Lincoln Streets.		
Owned by	City of Stockton.		
Operated by	City of Stockton.		
Purpose for which Used	Inactive.		
Type of Construction	Concrete bulkhead with concrete-surfaced, solid fill; ramps to face.		
Description	Face (feet)		
Dimensions	380		
Depth Alongside at MLLW	9-7		
Usable Berthing Space	380		
Width of Apron	Open.		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Street lights.		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in 1913.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	None.		
Highway Connections	Via Tuleburg Levee (access and marginal), concrete, 23 feet wide, from foot of N. Harrison Street (approach), paved, 50 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	26		
Name	City of Stockton Tuleburg Levee Dock.		
Location on Waterfront	Tuleburg Levee, between foot of N. Lincoln and N. Van Buren Streets.		
Owned by	City of Stockton.		
Operated by	City of Stockton.		
Purpose for which Used	Inactive.		
Type of Construction	Concrete bulkhead with concrete-surfaced, solid fill.		
Description	Face (feet)		
Dimensions	200		
Depth Alongside at MLLW	8		
Usable Berthing Space	200		
Width of Apron	4		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Unlighted.		
Storage Space	One-steel frame, metal-covered, wooden floor.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in 1913.		
Length and Width (Feet)	200 by 20		
Height Inside (Feet)	15		
Floor Area for Cargo (Sq. Ft.)	4,000		
Load Capacity per Sq.Ft. (Lbs.)	-		
Cargo Doors	Rear: along Tuleburg Levee; five sliding doors, each 8 by 9 feet.		
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)	None.		
Mechanical Handling Facilities			
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	None.		
Highway Connections	Via Tuleburg Levee (access and marginal), concrete, 30 feet wide, from W. Weber Avenue (arterial), asphalt-surfaced, concrete, 50 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks	Note: Former facilities located on the southern side of the channel have been removed to accommodate marina development. (Port Series No. 32, 1962, facilities numbered 29 through 34).		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	27		
Name	Guntert & Zimmerman Carpenter Shop Dock.		
Location on Waterfront	Northwest side of Fremont Channel, between foot of N. Monroe and N. Madison Streets Extended.		
Owned by	City of Stockton and Guntert & Zimmerman Construction Division, Inc.		
Operated by	Guntert & Zimmerman Construction Division, Inc.		
Purpose for which Used	Mooring various types of small vessels, barges, and floating equipment for repair, outfitting, and conversion; mooring company-owned tugs "Elmo F" and "Hickinbotham I" which are also used for commercial towing in harbor.		
Type of Construction	Timber pile, timber-decked wharf.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	135	35	20
Depth Alongside at MLLW	18-17	-	-
Usable Berthing Space	135	-	-
Width of Apron	20		
Height of Deck above MLLW	8		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the 1940's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One electric, crawler crane with 100-foot boom, and capacity of 65 tons at 20-foot radius; two 22-ton, gasoline, crawler cranes, each with 85-foot boom; and one 10-ton, gasoline, mobile crane with 65-foot boom.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	One 2-inch waterline.		
Railway Connections	Surface tracks serving plant in rear connect with Western Pacific Railroad.		
Highway Connections	Via W. Lindsay Street (access), gravel, 25 feet wide, from foot of N. Monroe Street (approach).		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 440 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Hand extinguishers and waterline.		
Remarks A 110- by 50-foot carpenter shop is located on dock. Tugs, barges, workboats, dredges, floating cranes, and large tuna fishing vessels, as well as specialized, concrete-laying machines, and other machinery have been built at a fully-equipped plant in rear. Dock is scheduled to be removed within 2 years by the city of Stockton.			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	28		
Name	Guntert & Zimmerman Outfitting and Mooring Dock.		
Location on Waterfront	Northwest side of Fremont Channel, between foot of N. Monroe and N. Madison Streets extended.		
Owned by	City of Stockton and Guntert & Zimmerman Construction Division, Inc.		
Operated by	Guntert & Zimmerman Construction Division, Inc.		
Purpose for which Used	Mooring various types of small vessels, barges, and floating equipment for repair, outfitting and conversion.		
Type of Construction	Timber pile, timber-decked, finger pier; and timber pile, mooring dolphins fronting channel bank.		
Description	Face of pier (feet)	Lower side (feet)	Upper side (feet)
Dimensions	18	65	65
Depth Alongside at MLLW	20	-	-
Usable Berthing Space	350 w/dolph.	-	-
Width of Apron	Open.		
Height of Deck above MLLW	8		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space	None.		
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the 1940's		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One electric, crawler crane with 100-foot boom, and capacity of 65 tons at 20-foot radius; two 22-ton, gasoline, crawler cranes, each with 85-foot boom; and one 10-ton, gasoline, mobile crane with 65-foot boom.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	Surface tracks serving plant in rear connect with Western Pacific Railroad.		
Highway Connections	Via W. Lindsay Street (access), gravel, 25 feet wide, from foot of N. Monroe Street (approach).		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Hydrants,		
Remarks	Dock is scheduled to be removed within 2 years by the city of Stockton.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	29		
Name	Guntert & Zimmerman Dock.		
Location on Waterfront	West of foot of North Monroe Street extended.		
Owned by	City of Stockton and Guntert & Zimmerman Construction Division, Inc.		
Operated by	Guntert & Zimmerman Construction Division, Inc.		
Purpose for which Used	Mooring various types of small vessels, barges, and floating equipment for repair, outfitting, and conversion; handling heavy lift cargo.		
Type of Construction	Timber pile, timber-decked dock with timber pile mooring dolphin at each end.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	100+33	33	12+20
Depth Alongside at MLLW	20-18	-	-
Usable Berthing Space	150 w/dolphin	-	-
Width of Apron	Open.		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	Reinforced section for large crane.		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the 1940's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq. Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One electric, crawler crane with 100-foot boom, and capacity of 65 tons at 20-foot radius; two 22-ton, gasoline, crawler cranes, each with 85-foot boom; and one 10-ton, gasoline, mobile crane with 65-foot boom.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	One 3-inch waterline.		
Railway Connections	Surface tracks serving plant in rear connect with Western Pacific Railroad.		
Highway Connections	Via West Lindsay Street (access), gravel, 25 feet wide, from foot of North Monroe Street (approach).		
Electric Current (Available to Vessels)	A.C., 220/440 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Waterline and 2-inch electric pump.		
Remarks	Lines for welding gas, oxygen, and compressed air are located on the dock. Side-launching ways are located near west end of dock. Dock is scheduled to be removed within 2 years by the City of Stockton. Note: Former adjacent facilities of Pittsburg-Des Moines Steel Co. have been removed.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	30		
Name	Stockton Iron Works Dock.		
Location on Waterfront	Miners Levee, between N. Edison and N. Harrison Streets.		
Owned by	Grant-Haas-Minor.		
Operated by	Various operators.		
Purpose for which Used	Inactive		
Type of Construction	Timber mooring piles along bank.		
Description	Mooring piles (feet)		
Dimensions	100 approx.		
Depth Alongside at MLLW	10		
Usable Berthing Space	100 approx.		
Width of Apron	Open bank.		
Height of Deck above MLLW	-		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Unlighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the 1940's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	None.		
Railway Connections	None.		
Highway Connections	Via N. Harrison Street (access and approach), asphalt, 40 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	None.		
Remarks	The area in rear is being operated as an industrial park with several companies and lessees occupying the buildings. The Stockton Iron works is located here, designing and constructing steel fabrications and dredge buckets.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	31		
Name	Colberg, Inc., Upper Outfitting Dock.		
Location on Waterfront	Foot of North Edison Street.		
Owned by	Colberg, Inc.		
Operated by	Colberg, Inc.		
Purpose for which Used	Mooring various types of small vessels for outfitting, repair, and conversion.		
Type of Construction	Timber pile with steel beams supporting timber deck.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	100	30	30
Depth Alongside at MLLW	10-8	-	-
Usable Berthing Space	110	-	-
Width of Apron	Open.		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the 1940's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 20-ton, electric, traveling, revolving, tower crane with 56-foot boom; travels on rails along rear of dock face. Various self-propelled cranes serving plant are available as needed.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	--		
Railway Connections	One surface track in rear connects with Western Pacific Railroad.		
Highway Connections	Via plant driveway (access), unpaved, 10 feet wide, from West Fremont Street.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Waterline and plant facilities.		
Remarks	At western side of this dock are shipbuilding and side-launching ways served by a high-tower, shipbuilding crane traveling along the landward side. A 35- by 6-foot finger pier and other shipbuilding and launching ways are located nearby. Above-waterline repairs can be made to oceangoing vessels moored along the dock. Dock is equipped with compressed		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	32		
Name	Colberg, Inc., Outfitting Dock.		
Location on Waterfront	Foot of North Stockton Street.		
Owned by	Colberg, Inc.		
Operated by	Colberg, Inc.		
Purpose for which Used	Mooring various types of small vessels for outfitting, repair, and conversion.		
Type of Construction	Timber pile, timber-decked, offshore dock with 40- by 8-foot approach.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	125	35	35
Depth Alongside at MLLW	10-8	-	-
Usable Berthing Space	125	-	-
Width of Apron	Open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the 1940's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	Various self-propelled cranes serving plant are available as needed.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	--		
Railway Connections	One surface track in rear connects with Western Pacific Railroad.		
Highway Connections	Via plant driveway (access), unpaved 10 feet wide, from West Fremont Street.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Waterline and plant facilities.		
Remarks A canopy roof extends along the landward side of dock deck, sheltering welding units and other equipment. Dock is equipped with compressed air line. One 200- and one 60-ton, marine railways are located between west side of dock and east side of Ref. No. 33; a line of timber mooring piles between railways used for mooring and as a guide pier.			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	-33		
Name	Colberg, Inc., Machine Shop Dock		
Location on Waterfront	Between foot of North Yousemita and North Stockton Streets extended.		
Owned by	Colberg, Inc.		
Operated by	Colberg, Inc.		
Purpose for which Used	Mooring various types of small vessels for outfitting, repair, and conversion.		
Type of Construction	Timber pile, timber-decked dock.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	70	35	60
Depth Alongside at MLLW	10-8	-	-
Usable Berthing Space	70	-	-
Width of Apron	Open,		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the 1940's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 20-ton electric, steel, stiffleg derrick with 40-foot boom.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through small waterline.		
Railway Connections	Western Pacific Railroad track on West Lindsay Street serves plant in rear.		
Highway Connections	Via North Stockton Street (access and approach), asphalt, 30 feet wide.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Waterline and plant facilities.		
Remarks	Machine shop building located at rear of dock.		

PIERS, WHARVES, AND DOCKS

Reference Number on Map	34		
Name	Colberg, Inc., Marine Station Dock.		
Location on Waterfront	Above foot of North Yosemite Avenue extended.		
Owned by	Colberg, Inc.		
Operated by	Colberg, Inc.		
Purpose for which Used	Mooring small vessels for fueling, and in connection with shipyard activities.		
Type of Construction	Timber pile, timber deck.		
Description	Face (feet)	Lower Side (feet)	Upper side (feet)
Dimensions	15	10	10
Depth Alongside at MLLW	10-8	-	-
Usable Berthing Space	15	-	-
Width of Apron	Open		
Height of Deck above MLLW	8		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the 1940's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	One-inch waterline.		
Railway Connections	None.		
Highway Connections	Via North Stockton Street (access and approach), asphalt, 30 feet wide.		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Small waterline and hand extinguishers.		
Remarks Small vessels are supplied with gasoline and diesel fuels from 4 underground storage tanks with a total capacity for 2,000 gallons of gasoline and 6,000 gallons of diesel oil.			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	35		
Name	Stephens Marine, Inc., Upper Dock.		
Location on Waterfront	Below foot of North Yosemite Avenue extended.		
Owned by	Stephens Marine, Inc.		
Operated by	Stephens Marine, Inc.		
Purpose for which Used	Mooring various types of small vessels for outfitting and repair.		
Type of Construction	Timber pile, timber-decked dock fronted by low-elevation mooring floats.		
Description	Face (feet)	Lower side (feet)	Upper side (feet)
Dimensions	40	35	35
Depth Alongside at MLLW	12-10	-	-
Usable Berthing Space	40	-	-
Width of Apron	Open		
Height of Deck above MLLW	12		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the 1940's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 4-ton, electric, timber, stiffleg derrick with 30-foot boom; one 2.5-ton, gasoline, crawler crane with 30-foot boom; and 2 gasoline, forklift trucks.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	--		
Railway Connections	Western Pacific Railroad track extends along rear of shipyard property.		
Highway Connections	Via North Yosemite Avenue (access and approach), asphalt, 25 feet wide.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle; A.C., 220 volts, 3-phase, 60-cycle.		
Fire Protection (Other than City)	Waterline, hand extinguishers, hydrants, and hose.		
Remarks Shipbuilding yard and marine repair plant located in rear extend between the foot of N. San Jose Street and N. Yosemite Avenue. Dock is equipped with compressed air line. Marine railways Nos. 1, 2, and 3, with haul-out capacities of 200, 70, and 40 tons, respectively, are located between west side of dock and east side of Ref. No. 36.			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	36		
Name	Stephens Marine, Inc., Lower Dock.		
Location on Waterfront	Above foot of N. San Jose Street extended.		
Owned by	Stephens Marine, Inc.		
Operated by	Stephens Marine, Inc.		
Purpose for which Used	Mooring various types of small vessels for outfitting and repair.		
Type of Construction	Timber pile, timber-decked L-shaped dock; fronted by low-elevation mooring floats and 2 floating boathouses.		
Description	Face (feet)	Lower Side (feet)	Upper side (feet)
Dimensions	40+125+14	75	75
Depth Alongside at MLLW	12-10	12-5	12-5
Usable Berthing Space	40+14	50 approx.	35, float,
Width of Apron	Open.		
Height of Deck above MLLW	12 and floats.		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the 1940's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	One 5-ton, stiff-leg derrick with 20-foot boom is located on lower 40-foot section of dock.		
Pipelines	--		
Water Supply and Waste Treatment Facilities (Available to Vessels)	--		
Railway Connections	Western Pacific Railroad track extends along rear of shipyard property.		
Highway Connections	Via North Yosemite Street (access and approach), asphalt, 25 feet wide.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Waterline, hand extinguishers, and plant facilities.		
Remarks			

PIERS, WHARVES, AND DOCKS

Reference Number on Map	37		
Name	Texaco, Inc., Dock.		
Location on Waterfront	West of foot of North San Jose Street.		
Owned by	Texaco, Inc.		
Operated by	Texaco, Inc.		
Purpose for which Used	Receipt of petroleum products by barge and small vessel.		
Type of Construction	Timber pile, timber-decked dock with timber pile mooring dolphins in line with face.		
Description	Face (feet)	West side (feet)	East side (feet)
Dimensions	6	30	30
Depth Alongside at MLLW	15	-	-
Usable Berthing Space	125 w/dolphin	-	-
Width of Apron	Open.		
Height of Deck above MLLW	16		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)	None.		
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction	Dock was constructed in the 1940's.		
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None.		
Pipelines	Two 6- and one 4-inch pipelines.		
Water Supply and Waste Treatment Facilities (Available to Vessels)	Through one 3/4-inch line and hose.		
Railway Connections	Track of Western Pacific Railroad located at rear of property.		
Highway Connections	Via foot of North San Jose Street (access and approach), asphalt, 20 feet wide from West Fremont Street (marginal).		
Electric Current (Available to Vessels)	None.		
Fire Protection (Other than City)	Small waterline and hand extinguishers.		
Remarks	Two 6- and one 4-inch pipelines extend from dock to 7 steel, storage tanks at rear, total capacity 19,600 barrels; one 20,000-gallon tank not connected by pipelines.		

OIL-HANDLING FACILITIES

Reference Number On Map	Operator and/or user		
		Number	Capacity (barrels)
37	Texco, Inc.	7	19,600
Total		7	19,600

PIERS, WHARVES, AND DOCKS

Reference Number on Map	38		
Name	Turning Basin Mooring Dock.		
Location on Waterfront	Foot of North Yale Avenue extended, near northeast side of Turning Basin.		
Owned by	John Kessel.		
Operated by	John Kessel.		
Purpose for which Used	Inactive.		
Type of Construction	Timber pile, concrete-decked dock with deck at same elevation as high bank; low-elevation, timber sheet pile bulkhead, solid fill extending from both sides of dock.		
Description	Face of dock (feet)	Lower side (feet)	Upper side (feet)
Dimensions	30	15	15
Depth Alongside at MLLW	15	-	-
Usable Berthing Space	210 w/floats	-	-
Width of Apron	Open		
Height of Deck above MLLW	20 at dock; 8 and 9 at bulkhead.		
Load Capacity per Sq. Ft. (Lbs.)	-		
Lighted or Unlighted	Lighted.		
Storage Space			
Covered (Transit Sheds)			
Cargo Type (Bulk, Container, Etc.)			
Number and Type of Construction			
Length and Width (Feet)			
Height Inside (Feet)			
Floor Area for Cargo (Sq. Ft.)			
Load Capacity per Sq.Ft. (Lbs.)			
Cargo Doors			
Open			
Cargo Type			
Area (Acres)			
Surfacing Type			
Tank (Other than Petroleum)			
Mechanical Handling Facilities	None		
Pipelines	-		
Water Supply and Waste Treatment Facilities	Through small line and hose.		
Railway Connections	None.		
Highway Connections	Via foot of North Yale Avenue (access and approach), asphalt, 25 feet wide.		
Electric Current (Available to Vessels)	A.C., 110 volts, single-phase, 60-cycle.		
Fire Protection (Other than City)	Waterline and hose.		
Remarks	Small floats serve as fenders along bulkhead.		



SAN FRANCISCO BAY AREA IN-DEPTH STUDY CALIFORNIA

PORT FACILITIES INVENTORY

PORT FACILITIES AT STOCKTON, CALIF.

SCALE IN FEET

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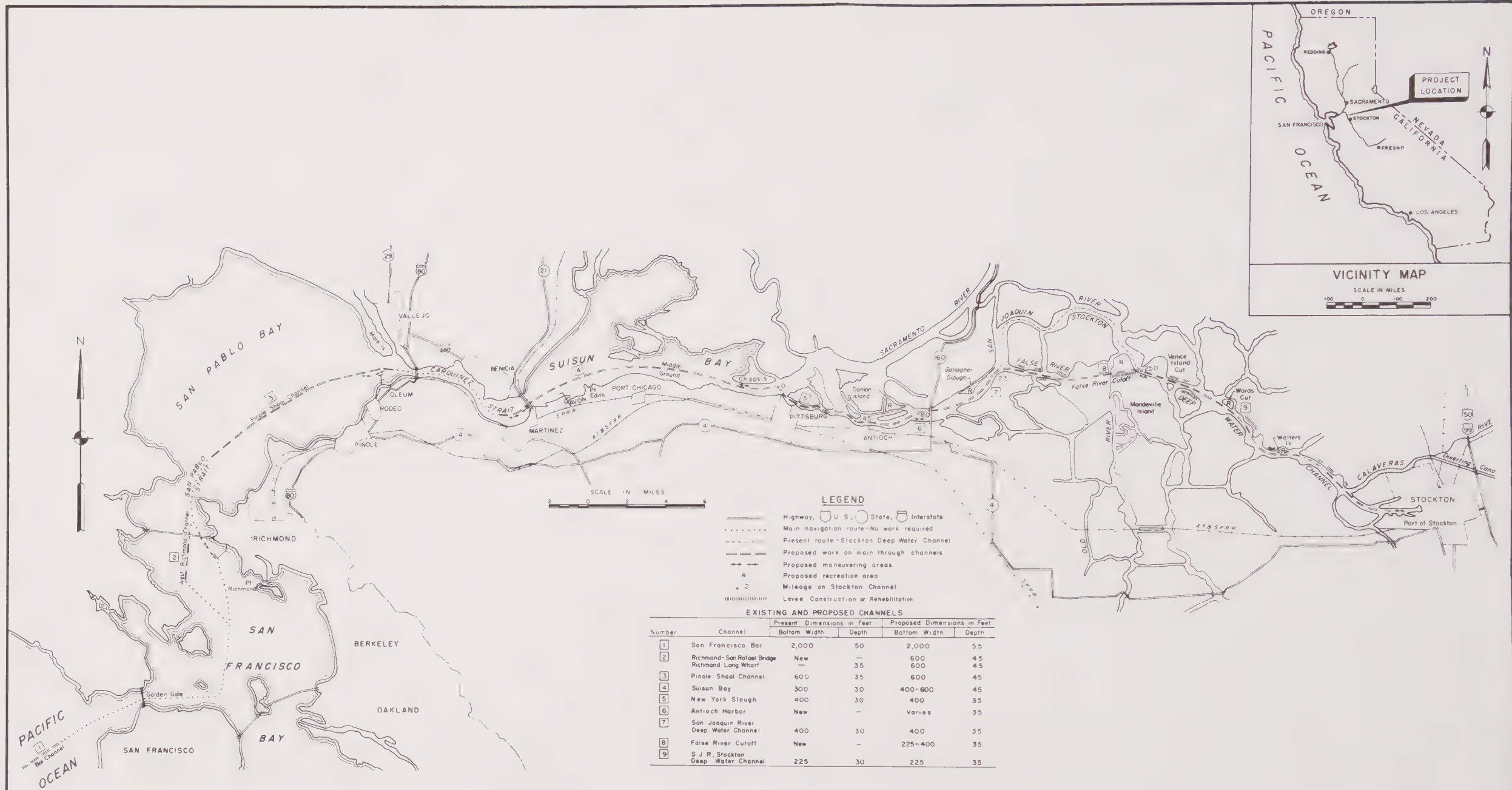
U.S. ARMY ENGINEER DISTRICT, SAN FRANCISCO, CORPS OF ENGINEERS

DRAWN: FILE NO.

TRACED: TO ACCOMPANY REPORT

CHECKED: DATED: MAR 1973

1-185



SAN FRANCISCO BAY TO STOCKTON (John F. Baldwin and Stockton Ship Channels)

CALIFORNIA

U.S. ARMY ENGINEER DISTRICT
SACRAMENTO, CALIFORNIA

MAR 1973

FILE NO.
1-1-185

ANCHORAGES

18. DISCUSSION

Existing Federally designated anchorages have been established in San Francisco and San Pablo Bays, Carquinez Strait, Suisun Bay, San Joaquin River and Sacramento River. A description of the anchorage areas as published in the Federal Register of 1 December 1972 is provided on the following pages. The locations of these areas are shown on Plates 27, 30 and 38.

Title 33, Code of Federal Regulations, Chapter 1 - Navigation and Navigable Waters, Section 110.224 is amended to read as follows:

S 110.224 San Francisco Bay, San Pablo Bay, Carquinez Straits, Suisun Bay, San Joaquin River, and connecting waters, California.

(a) San Francisco Bay Anchorage Grounds.

(1) Anchorage No. 3, General Anchorage. That portion of Belvedere Cove bounded by the shore and line beginning at latitude $37^{\circ}52'20''$, longitude $122^{\circ}27'02''$; thence southwest to latitude $37^{\circ}51'43''$, longitude $122^{\circ}27'25''$.

(2) Anchorage No. 4, General Anchorage. (i) Bounded by the westerly shore of San Francisco North Bay and the following lines: Beginning on the shore southwest of Point San Quentin at latitude $37^{\circ}56'28''$, longitude $122^{\circ}28'54''$; thence east southeasterly to latitude $37^{\circ}55'55''$, longitude $122^{\circ}26'49''$; thence southwesterly to latitude $37^{\circ}54'13''$, longitude $122^{\circ}27'24''$; thence southeast to the shore of Tiburon Peninsula at Point Chauncey at latitude $37^{\circ}53'40.5''$, longitude $122^{\circ}26'55''$, including Explosives Anchorage 13 and the forbidden anchorage surrounding it. For special regulations concerning the utilization of Explosives Anchorage 13 as temporary general anchorage refer to subdivisions 110.224 (a)(10)(iv) and (v).

(ii) Special Regulation. No vessel anchored in this anchorage may project into the San Francisco North Bay Channel.

(3) Anchorage No. 5, General Anchorage. (i) In San Francisco Bay beginning on the northwest shore of Red Rock at latitude $37^{\circ}55'48''$, longitude $122^{\circ}25'52''$, thence west to San Francisco Bay North Channel Lighted Buoy 12 at latitude $37^{\circ}55'43''$, longitude $122^{\circ}26'33''$; thence south to San Francisco Bay North Channel Lighted Buoy 10 at latitude $37^{\circ}54'49''$, longitude $122^{\circ}26'39''$; thence southeast to latitude $37^{\circ}53'23''$, longitude $122^{\circ}25'09''$; thence north to Southampton Shoal Channel Lighted Buoy 5SS at latitude $37^{\circ}55'19''$, longitude $122^{\circ}25'29.5''$; thence to the southeast shore of Red Rock at latitude $37^{\circ}55'42''$, longitude $122^{\circ}25'45''$.

(ii) Special Regulation. No vessel anchored in this anchorage may project into the San Francisco Bay North Channel or the Southampton Shoal Channel.

(4) Anchorage No. 6, General Anchorage. Bounded by the easterly shore of San Francisco Bay and the following lines: Beginning at the shore of the southernmost extremity of Point Isabel at latitude $37^{\circ}53'46''$, longitude $122^{\circ}19'19''$; thence westerly along the northerly shore of Brooks Island to the jetty extending westerly therefrom; thence westerly along the jetty to its bayward end at latitude $37^{\circ}54'13''$, longitude $122^{\circ}23'27''$; thence south southeast to latitude $37^{\circ}49'53''$, longitude $122^{\circ}21'39''$; thence southeast to latitude $37^{\circ}49'32.5''$, longitude $122^{\circ}21'20.5''$; thence east to latitude $37^{\circ}49'34''$, longitude $122^{\circ}20'13''$; thence east southeast to latitude $37^{\circ}49'30''$, longitude $122^{\circ}19'45.5''$; thence east northeast to the shore at Emeryville at latitude $37^{\circ}50'04''$, longitude $122^{\circ}17'41''$; excluding from this area, however, the Channel to Berkely Marina delineated by lines joining the following points:

Latitude	Longitude
$37^{\circ}52'08''$	$122^{\circ}19'07''$
$37^{\circ}52'03''$	$122^{\circ}19'17.5''$
$37^{\circ}52'00''$	$122^{\circ}19'15.5''$
$37^{\circ}51'01''$	$122^{\circ}22'07''$
$37^{\circ}50'43''$	$122^{\circ}22'00''$
$37^{\circ}50'53''$	$122^{\circ}21'32''$
$37^{\circ}51'47''$	$122^{\circ}18'59''$

(5) Anchorage No. 7, Temporary General Anchorage. (i) In San Francisco Bay bounded by the westerly shore of Treasure Island and the following lines: Beginning at the most westerly shore of Treasure Island at latitude 37°49'36", longitude 122°22'40"; thence northwesterly to latitude 37°50'00", longitude 122°22'57"; thence westerly to San Francisco Bay North Channel Lighted Buoy 2 at latitude 37°50'00", longitude 122°23'44"; thence southerly to latitude 37°49'22.5", longitude 122°23'44"; thence southeasterly to latitude 37°48'40.5", longitude 122°22'38"; thence to the shore of Treasure Island at latitude 37°48'51.1", longitude 122°22'13".

(ii) Special Regulations. (a) No vessel anchored in this anchorage may project into the San Francisco Bay North or South Channel.

(b) This anchorage is primarily for use by vessels requiring a temporary anchorage waiting to proceed to pier facilities or other anchorage grounds. This anchorage shall not be utilized by vessels for the purpose of off loading any dangerous cargoes or combustible liquids without a written permit from the Captain of the Port.

(c) Vessels utilizing this anchorage shall not remain for more than 12 hours without a written permit from the Captain of the Port.

(d) The master of every vessel using this anchorage shall maintain his vessel in such condition that the vessel can move within one hour upon notification by the Captain of the Port.

(e) Light draft vessels shall anchor away from the deeper portions of this anchorage in accordance with subparagraph 110.224(g)(7).

(6) Anchorage No. 8, Temporary Anchorage. (i) In San Francisco Bay bounded by the westerly shore of the Naval Air Station, Alameda, and the following lines: Beginning at Oakland Inner Harbor Light 2 at latitude 37°47'52", longitude 122°19'54"; thence west northwesterly to latitude 37°48'03", longitude 122°20'57.5"; thence south southwesterly to latitude 37°47'56", longitude 122°21'22.5"; thence southwesterly to latitude 37°47'26", longitude 122°21'41"; thence south southeasterly to latitude 37°47'00", longitude 122°21'30"; thence southeasterly to the Alameda Naval Air Station Channel Lighted Bell Buoy 1 at latitude 37°46'38", longitude 122°20'24"; thence easterly to latitude 37°46'37", longitude 122°19'56"; thence northerly to the shore of the Naval Air Station, Alameda, at latitude 37°46'57", longitude 122°19'52.5".

(ii) Special Regulations. (a) This anchorage is primarily for use as a temporary holding ground for vessels waiting to proceed to pier facilities in the Oakland Harbor.

(b) No vessel shall remain in this anchorage for more than 6 hours without written permit from the Captain of the Port.

(c) The master of every vessel using this anchorage shall maintain his vessel in such condition that the vessel can move within one hour upon notification by the Captain of the Port.

(d) No vessel anchored in this anchorage may project into the San Francisco Bay South Channel.

(7) Anchorage No. 9, General Anchorage. (i) In San Francisco Bay bounded on the north by the shore, the breakwater and turning basin at the Alameda Naval Air Station and a line beginning at the Alameda Naval Air Station Channel Lighted Buoy 6 at latitude 37°46'23", longitude 122°19'02"; thence west to the Alameda Naval Air Station Channel Entrance Lighted Buoy 2 at latitude 37°46'27", longitude 122°20'24.5"; thence west southwesterly to latitude 37°46'08", longitude 122°21'45"; thence south southeasterly to San Bruno Shoal Channel Light 1 at latitude 37°41'44", longitude 122°20'17.5"; thence south southeast to San Bruno Shoal Channel Light 5 at latitude 37°38'37", longitude 122°18'43"; thence southeast to latitude 37°36'05", longitude 122°14'13.5"; thence east northeast to the shore at latitude 37°37'38.5", longitude 122°09'02"; and bounded on the east by the shore; including all of San Leandro Bay excluding the pipeline areas therein.

When Explosives Anchorage No. 12 is activated by the Captain of the Port, this anchorage and the forbidden anchorage zone surrounding it are excluded from Anchorage No. 9, General Anchorage.

(ii) Special Regulations. (a) Light draft vessels shall anchor away from the deeper portions of this anchorage in accordance with subparagraph 110.224 (g) (7).

(b) No vessel anchored in this anchorage may project into the San Francisco Bay South Channel or into San Bruno Shoal Channel.

(8) Anchorage No. 10, Naval Anchorage. (i) In San Francisco Bay bounded by the easterly shore of Sausalito and the following lines: Beginning on the shore of Sausalito at latitude $37^{\circ}51'20''$, longitude $122^{\circ}28'38''$, thence southeast to latitude $37^{\circ}50'57.5''$, longitude $122^{\circ}27'57''$; thence southwest to the shore of Sausalito at latitude $37^{\circ}50'36''$, longitude $122^{\circ}28'34''$.

(ii) Special Regulation. This anchorage is for the use of public vessels of the United States, but may be used by yachts when not required for use by public vessels. All yachts making use of this anchorage shall be prepared to move immediately upon notice should the anchorage be required for public vessels. With the permission of the Captain of the Port, permanent yacht moorings may be placed within this anchorage, not more than 300 yards from the shore.

(9) Anchorage No. 12, Explosives Anchorage. (i) In San Francisco Bay east of the city of San Francisco a circular area having a radius of 500 yards centered at latitude $37^{\circ}44'32.5''$, longitude $122^{\circ}20'27.5''$.

(ii) Special Regulations. (a) No vessel may use this anchorage except the vessel that is loaded with loading or unloading explosives and lighters and barges lying alongside that vessel for transfer of cargo.

(b) This anchorage and the surrounding forbidden anchorage zone are temporarily activated as needed, by the Captain of the Port. When this anchorage is not activated it is part of Anchorage No. 9, General Anchorage. Notification of activation and deactivation will be disseminated by the United States Coast Guard in "Local Notice to Mariners", and by direct notice to the various pilot and shipping organizations.

(c) The maximum total quantity of explosives that may be on board a vessel moored in this anchorage shall be limited to 3,000 tons.

(d) The 667-yard-wide area surrounding this anchorage is forbidden anchorage zone. No vessel may anchor in this forbidden zone while this anchorage is activated.

(10) Anchorage No. 13, Explosives Anchorage (Temporary General). (i) In San Francisco Bay east of the Tiburon Peninsula a circular area having a radius of 333 yards centered at the Explosives Anchorage 13 Buoy EX at latitude $37^{\circ}55'26''$, longitude $122^{\circ}27'27''$.

(ii) Special Regulations. (a) No vessel may use this anchorage except the vessel that is loaded with, loading, or unloading explosives and lighters and barges lying alongside that vessel for transfer of cargo.

(b) The maximum total quantity of explosives that may be on board a vessel moored in this anchorage shall be limited to 50 tons; except that, with the permission of the Captain of the Port, vessels in transit, loaded with explosives in excess of this limitation, may anchor temporarily in this anchorage provided the hatches to the holds containing explosives are not opened.

(c) The 667-yard-wide zone partially surrounding this anchorage is a forbidden anchorage zone. No vessel may anchor in this forbidden zone while this anchorage is being utilized by an explosives laden vessel.

(d) This anchorage and the surrounding forbidden anchorage zone are temporarily activated as needed by the Captain of the Port. When this anchorage is not in use as an explosives anchorage it may be utilized by any vessel as a temporary general anchoring ground, provided oral permission of the Captain of the Port is obtained prior to usage.

(e) The master of every vessel using this anchorage shall maintain his vessel in such condition that the vessel can move within one hour upon notification by the Captain of the Port.

(f) No vessel anchored in this anchorage may project into the San Francisco Bay North Channel.

(11) Anchorage No. 14, Explosives Anchorage. (i) In San Francisco Bay east of Hunters Point an area 1,000 yards wide and 2,760 yards long, the end boundaries of which are semicircles with radii of 500 yards and center, respectively at latitude $37^{\circ}42'52''$, longitude $122^{\circ}19'32.5''$, and latitude $37^{\circ}42'14''$, longitude $122^{\circ}18'47''$; and the side boundaries of which are parallel tangents joining said semicircles. This anchorage is marked at each extremity, respectively, by Explosives Anchorage 14 Lighted Buoy EX-A and Explosives Anchorage 14 Buoy EX-B.

(ii) Special Regulations. (a) No vessel may use this anchorage except vessels loaded with, loading, or unloading explosives and lighters and barges lying alongside those vessels for transfer of cargo.

(b) The maximum total quantity of explosives that may be on board a vessel moored in this anchorage shall be limited to 3,000 tons. Vessels will be assigned berths in this anchorage by the Captain of the Port on the basis of the maximum quantity of explosives that will be on board the vessel.

(c) The 667-yard-wide area surrounding this anchorage is a forbidden anchorage zone. No vessel may anchor in this forbidden zone while this anchorage is activated.

(d) This anchorage and the surrounding forbidden anchorage zone may be temporarily discontinued by the Captain of the Port when the area is required for general anchorage purposes.

(b) San Pablo Bay Anchorage Grounds.

(1) Anchorage No. 18, General Anchorage. In San Pablo Bay bounded by the westerly shore of San Pablo Bay and the following lines: Beginning at the shore at Point San Pedro at latitude $37^{\circ}59'16''$, longitude $122^{\circ}26'47''$; thence east to latitude $37^{\circ}59'16''$, longitude $122^{\circ}26'26''$, thence northerly to latitude $38^{\circ}03'46''$, longitude $122^{\circ}25'52.5''$; thence northwesterly to the shore south of the entrance to Novato Creek at latitude $38^{\circ}05'13.5''$, longitude $122^{\circ}29'04''$; excluding from this area, however, the channel to Hamilton Field and the extension of this channel easterly to the boundary of the anchorage, and the pipeline area therein.

(2) Anchorage No. 19, General Anchorage. In San Pablo Bay bounded by the northeasterly shore of San Pablo Bay and the following lines: Beginning at the shore of Tubbs Island at latitude $38^{\circ}07'39''$, longitude $122^{\circ}25'18''$; thence southerly to latitude $38^{\circ}00'36''$, longitude $122^{\circ}25'20''$; thence northeasterly to latitude $38^{\circ}03'13''$, longitude $122^{\circ}19'46''$; thence east northeasterly to latitude $38^{\circ}03'37''$, longitude $122^{\circ}17'13''$; thence northerly to the long dike extending southwesterly from Mare Island at latitude $38^{\circ}03'52.5''$, longitude $122^{\circ}17'10''$; thence along the long dike to the shore at Mare Island. Vessels anchored in this anchorage shall insure that they do not project into the Pinole Shoal Channel.

NOTE: See S 204.215 of this Title establishing a target area in San Pablo Bay adjacent to the westerly shore of Mare Island for use of the Mare Island Navy Yard.

(3) Anchorage No. 20, General Anchorage. In San Pablo Bay bounded by the southeasterly shore of San Pablo Bay and the following lines: Beginning at the northeast corner of Parr Terminal No. 4 at Point San Pablo at latitude $37^{\circ}57'59''$, longitude $122^{\circ}25'35''$; thence north-east to latitude $38^{\circ}01'27.5''$, longitude $122^{\circ}21'33''$; thence east northeast to the Union Oil Company Pier at Oleum at latitude $38^{\circ}03'18''$, longitude $122^{\circ}15'37''$; and thence along this pier to the shore.

(4) Anchorage No. 21, Naval Anchorage. In San Pablo Bay south of Mare Island a rectangular area beginning at latitude $38^{\circ}03'56''$, longitude $122^{\circ}15'56''$; thence easterly to latitude $38^{\circ}04'02''$, longitude $122^{\circ}15'20''$; thence southerly to latitude $38^{\circ}03'48''$, longitude $122^{\circ}15'16''$; thence westerly to latitude $38^{\circ}03'42''$, longitude $122^{\circ}15'52''$; thence northerly to the point of beginning.

(c) Carquinez Strait Anchorage Grounds.

(1) Anchorage No. 24, General Anchorage. (i) Bounded by the northerly shore of Carquinez Strait and the following lines: Beginning on the shore at Dillon Point at latitude $38^{\circ}03'44''$, longitude $122^{\circ}11'29''$; thence southeast to latitude $38^{\circ}03'34''$, longitude $122^{\circ}11'10''$; thence south southeast to latitude $38^{\circ}03'17''$, longitude $122^{\circ}11'04''$; thence southeast to the shore of Benicia at latitude $38^{\circ}02'37.5''$, longitude $122^{\circ}09'55''$.

(ii) Special Regulation. Each vessel anchoring in this anchorage shall promptly notify the Captain of the Port, upon anchoring and upon departure.

(2) Anchorage No. 25, General Anchorage. (i) Bounded by the south shore of Carquinez Strait and the following lines: Beginning on the shore at Point Carquinez at latitude $38^{\circ}02'09''$, longitude $122^{\circ}10'22''$; thence east southeast to latitude $38^{\circ}01'47''$, longitude $122^{\circ}08'57''$; thence southeast to the shore of Martinez at latitude $38^{\circ}01'20''$, longitude $122^{\circ}08'42''$.

(ii) Special Regulation. Each vessel anchoring in this anchorage shall promptly notify the Captain of the Port, upon anchoring and upon departure.

(d) Suisun Bay Anchorage Grounds.

(1) Anchorage No. 26, General Anchorage. On the west side of Suisun Bay, adjacent to and northeast of the city of Benicia within the following boundaries: Beginning on the shore northeast of Army Point at latitude $38^{\circ}02'54''$, longitude $122^{\circ}07'37''$; thence south southeast along the Southern Pacific Bridge to latitude $38^{\circ}02'38''$, longitude $122^{\circ}07'24''$; thence east to latitude $38^{\circ}02'42''$, longitude $122^{\circ}07'07.5''$; thence northeast to Suisun Bay Anchorage 26 Lighted Buoy B at latitude $38^{\circ}05'42''$, longitude $122^{\circ}04'06''$; thence northwest to the shore at latitude $38^{\circ}05'58''$, longitude $122^{\circ}04'28''$; thence along the shore to the point of beginning.

NOTE: A portion of Anchorage 26 is occupied by the Suisun Bay Reserve Fleet of the Maritime Administration and S 207.900 of this Title establishes a restricted area in the vicinity of the Reserve Fleet.

(2) Anchorage No. 27, General Anchorage. In the northeast portion of Suisun Bay bounded by the northern shore and the following lines: Beginning on the shore of Grizzly Island at latitude $38^{\circ}08'13''$, longitude $122^{\circ}02'42.5''$; thence south to tripod at Preston Point on Roe Island at latitude $38^{\circ}04'16''$, longitude $122^{\circ}02'42''$; thence along the south shore of Roe Island to latitude $38^{\circ}04'05''$, longitude $122^{\circ}01'35''$; thence east southeast to latitude $38^{\circ}03'42.5''$, longitude $121^{\circ}58'54''$; thence east to the shore of Chipps Island at latitude $38^{\circ}03'42.5''$, longitude $121^{\circ}55'05''$.

(e) San Joaquin River Anchorage Grounds.

(1) Anchorage No. 28, General Anchorage. The area bounded on the east by the shore of Lower Sherman Island and the following lines: Beginning at Point Sacramento on Lower Sherman Island at latitude $38^{\circ}03'45''$, longitude $121^{\circ}50'17.5''$; thence southwest to latitude $38^{\circ}03'37.5''$, longitude $121^{\circ}50'31''$; thence south southeast to latitude $38^{\circ}02'11''$, longitude $121^{\circ}49'58''$; thence to the shore of Lower Sherman Island at latitude $38^{\circ}02'23''$, longitude $121^{\circ}49'49''$.

(2) Anchorage No. 30, Explosives Anchorage. (i) The portion of the Old San Joaquin River Channel bounded on the west by the shore of Mandeville Point and the following lines: Beginning on the shore of Mandeville Point at latitude $38^{\circ}04'01''$, longitude $121^{\circ}32'05''$; thence northeast to latitude $38^{\circ}04'07.5''$, longitude $121^{\circ}31'58''$; thence southeast to latitude $38^{\circ}03'47''$, longitude $121^{\circ}31'42.5''$; thence west to the shore of Mandeville Point at latitude $38^{\circ}03'47.5''$, longitude $121^{\circ}31'56''$.

(ii) Special Regulations. (a) This anchorage is for the use of vessels, lighters, and barges loaded with, loading, or unloading explosives or explosive materials.

(b) No other vessel may enter or remain in this anchorage when the anchorage is occupied by vessels loaded with explosives. At all other times the anchorage is open to navigation.

(c) Notice of loading and unloading operations will be given by notice published by the United States Coast Guard in "Local Notice to Mariners", and by notice given by the Port of Stockton to local radio stations and newspapers, and by telephonic means to any organization that may request that such advice be given. In all cases the notice will state how long the operation will be in progress and on what days.

(f) Sacramento River, Decker Island Restricted Anchorage for Vessels of the United States Government.

(1) The Anchorage Ground. An elongated area in the Sacramento River bounded on the west by the shore of Decker Island and the following lines: Beginning on the shore at Decker Island North End Light at latitude $38^{\circ}06'16''$, longitude $121^{\circ}42'32.5''$; thence east to latitude $38^{\circ}06'15''$, longitude $121^{\circ}42'27''$; thence south to latitude $38^{\circ}05'22''$, longitude $121^{\circ}42'30''$; thence southwest to latitude $38^{\circ}05'08''$, longitude $121^{\circ}42'40''$; thence west southwest to latitude $38^{\circ}05'02''$, longitude $121^{\circ}42'50''$; thence northwest to the shore of Decker Island at latitude $38^{\circ}05'04''$, longitude $121^{\circ}42'52.5''$.

(2) Special Regulation. No vessel or other craft except those owned by or operating under contract with the United States may navigate or anchor within fifty feet of any moored Government vessel in the area. Commercial and pleasure craft shall not moor to buoys or chains of Government vessels, nor may they, while moored or underway, unreasonably obstruct the passage of Government or other vessels through the area.

(g) General Regulations.

The following regulations apply to each anchorage described in this section:

- (1) No vessel may anchor in the navigable waters of San Francisco Bay, San Pablo Bay, Carquinez Strait, Suisun Bay, New York Slough, San Joaquin River Deep Water Channel, and the Stockton Turning Basin, California, outside of the anchorage areas established in this section except when unforeseen circumstances create conditions of imminent peril or with the written permission of the Captain of the Port. Each vessel anchoring in imminent peril or heavy fog shall immediately inform the Captain of the Port of her position and reason for anchoring.
- (2) No vessel may anchor within a tunnel, cable, or pipeline area shown on a government chart.
- (3) No vessel may moor, anchor, or tie up to any pier, wharf, or other vessel in such a manner as to extend into a channel.
- (4) No vessel in such a condition that it is likely to sink or otherwise become a menace or obstruction to navigation or anchorage of other vessels may occupy an anchorage, except when unforeseen circumstances create conditions of imminent peril to personnel and then only for such period as may be authorized by the Captain of the Port.
- (5) The Captain of the Port may require any vessel in a designated anchorage area to moor with two or more anchors.
- (6) Each vessel that will not have sufficient personnel on board to weigh anchor at any time shall anchor with two anchors with mooring swivel, unless otherwise authorized by the Captain of the Port.
- (7) Deep draft vessels will take precedence over vessels of lighter draft in the deeper portions of all anchorages. Lightdraft barges and vessels shall anchor away from the deeper portions of the anchorage so as not to interfere with the anchoring of deep draft vessels. Should circumstances warrant, the Captain of the Port will require lighter draft vessels to move to provide safe anchorage, particularly in Anchorages 7 and 9, for deep draft vessels.
- (8) Barges towed in tandem to any anchorage area shall nest together when anchoring.
- (9) Each vessel that is notified by the Captain of the Port or his authorized representative to shift her position shall promptly shift her position.
- (10) No person may use these anchorages for any purpose other than the purpose stated in the special anchorage regulations.
- (11) Nothing in this section may be construed as relieving any vessel or the owner or person in charge of any vessel from the penalties of law for obstructing or interfering with range lights or for not complying with the laws relating to lights, day signals, and fog signals and other navigation laws and regulations.
- (12) Explosives Anchorages.
 - (i) Unless otherwise authorized by the Captain of the Port, no vessel other than a vessel carrying explosives may anchor in an explosives anchorage.

(ii) Each vessel carrying explosives shall be entirely within one of these areas when anchored, except as provided by subdivision (x) of this subparagraph.

(iii) No vessel may transport explosives to be loaded on, or that have been unloaded from, another vessel in an explosives anchorage area unless she carries written permission from the Captain of the Port.

(iv) No vessel carrying explosives or on which explosives are to be loaded may proceed to an explosives anchorage or occupy a berth in an explosives anchorage without written permission from the Captain of the Port, which may be revoked at any time.

(v) The Captain of the Port may issue permission to vessels carrying flammable solids, oxidizing materials, corrosive liquids, flammable liquids, compressed gases and poisonous substances to occupy a berth in an explosives anchorage. Such a permit must be obtained before entering the anchorage and may be revoked at any time.

(vi) The Captain of the Port may require any person having business on board a vessel which is laden or being on-loaded or off-loaded with explosives to have a document that is acceptable to the Coast Guard for identification purposes and to show that document to the Captain of the Port.

(vii) The Captain of the Port may require a non-self-propelled vessel, or a self-propelled vessel that is unable to maneuver under its own power, that occupies an explosives anchorage to be attended by a tug.

(viii) Each vessel loading, unloading, or laden with explosives, while within an explosives anchorage, shall display by day at her mast-head, or at least 10 feet above the upper deck if the vessel has no mast-head, a red flag 16 square feet or more.

(ix) When a vessel is conducting loading operations from barges at any explosives anchorage and is displaying a red flag by day, passing vessels shall reduce speed so as to insure that their wake does not interfere with cargo transfer operations.

(x) The District Engineer, Corps of Engineers, may issue written permission for anchoring a single barge carrying explosives in quantities considered by him as safe and necessary in the vicinity of work being done directly under his supervision or under a Department of the Army permit. When the District Engineer issues such permission, he shall prescribe the conditions under which the explosives must be stored and handled and shall furnish a copy of the permit and a copy of the rules and regulations for storing and handling to the Captain of the Port.

(13) No vessel other than a vessel under Federal supervision may go alongside or in any manner moor to any Government-owned vessel, mooring buoy, or pontoon boom, their anchor cables, or any of their appendages. No vessel other than a vessel under Federal supervision may obstruct or interfere in any manner with the mooring, unmooring, or servicing of vessels owned by the United States.

(14) Each vessel anchoring in the San Joaquin River Deep Water Channel or the Stockton Turning Basin because of imminent peril or heavy fog shall be positioned as near the edge of the channel or turning basin as possible so as not to interfere with navigation, or obstruct the approach to any pier, wharf, slip, or boat harbor and shall move as soon as the imminent peril or heavy fog ceases or when notified to move by the Captain of the Port.

(15) No vessel may permanently moor in areas adjacent to the San Joaquin River Deep Water Channel except with the written permission of the Captain of the Port.

(Sec. 7, 38 Stat. 1053, as amended, sec. 6(g)(1)(A), 80 Stat. 937; 33 U.S.C. 471, 49 U.S.C. 1655(g)(1)(A); 49 CFR 1.46(c)(1), 33 CFR 1.05-1(c)(1) (36 F.R. 19160)).

Effective date: This amendment shall become effective on January 1, 1973.



SAN FRANCISCO BAY AREA IN-DEPTH STUDY CALIFORNIA
PORT FACILITIES INVENTORY
ANCHORAGE AREAS IN
SAN FRANCISCO AND
SAN PABLO BAYS

0 1000 3000 5000 7000
SCALE IN YARDS

U S ARMY ENGINEER DISTRICT, SAN FRANCISCO, CORPS OF ENGINEERS
DRAWN:
TRACED:
CHECKED:

TO ACCOMPANY REPORT
DATED: MARCH 1973

FILE NO.
1-1-185
PLATE

BRIDGES

19. DISCUSSION

Bridges crossing waterways in the San Francisco Bay Region are described as follows:

a. Golden Gate Bridge. A suspension bridge, known as the Golden Gate Bridge, crosses the Golden Gate Strait between Fort Point, San Francisco County, and Lime Point, Marin County. The horizontal clearance between the towers is 4,028 feet; the overhead vertical clearance at the center of the span is 232 feet at mean higher high water, and 214 feet at the north tower and 211 feet at the south tower.

b. San Francisco-Oakland Bay Bridge. The San Francisco-Oakland Bay Bridge which crosses San Francisco Bay proper, connects San Francisco City, Yerba Buena Island, and Oakland. Horizontal clearance between the piers of the bridge crossing that portion of the main bay between Yerba Buena Island and San Francisco are as follows: Between piers A - B and D - E, about 2,229 feet at each span; and between the center piers B - C and C - D, about 1,072 feet at each span. Overhead vertical clearances at mean higher high water at the above-mentioned piers are: A, 174 feet; B, 217 feet; C, 220 feet; D, 218 feet; and E, 175 feet. The vertical clearance under the canti-levered span just east of Yerba Buena Island is 184 feet and the channel width is about 1,330 feet. Three of the openings east of the aforementioned span provide vertical clearances of 165 to 175 feet and channel widths of 435.5 to 460.5 feet.

c. San Mateo-Hayward Bridge. San Mateo-Hayward Bridge, a single-deck highway bridge, connects the cities of San Mateo and Hayward. This bridge is a fixed, high-level span. The navigation opening for the main channel to the southern portion of San Francisco Bay has a width of 500 feet and a vertical clearance of 135 feet.

d. Dumbarton Bridge. Dumbarton Bridge, a vertical lift bridge connects Dumbarton Bridge Road in San Mateo County with Thornton Avenue in Alameda County. This bridge has the following navigation clearances: horizontal - 200 feet, vertical (down) - 9 feet, and vertical (up) - 135 feet. Immediately north of this bridge there is an overhead power cable with a clearance of 165 feet. Approximately one-half mile south of the bridge the Southern Pacific Transportation Company has a rail-road swing bridge with a horizontal clearance of 125 feet and a vertical clearance of 13 feet in the closed position.

e. Richmond-San Rafael Bridge. Richmond-San Rafael Bridge, a double-decked highway bridge, connects the cities of Richmond and San Rafael. This bridge is a fixed, high-level span. There are two navigation openings; one over the Main Ship Channel in the central part of the Bay, and the other over Richmond Outer Harbor. The west navigation

opening in the main channel has a width of 1,000 feet and a vertical clearance of 185 feet. The second navigation or east opening, in Richmond Harbor, has a width of 970 feet and a vertical clearance of 135 feet.

f. San Francisco City and County Bridges. There are also four bridges, owned by both San Francisco City and County, which span tributary navigable waters within the city limits of San Francisco. Third Street, Fourth Street, and Sixth Street bridges cross Channel Street, a dredged slip extending about 0.5 mile in length and in a southwesterly direction from China Basin. At Third Street, about 1-1/3 miles farther south, another bridge crosses Islais Creek. The following is a list of these structures in the order here mentioned.

Designation	Clear width normal to channel (feet)			Clear height of lowest point of superstructure above M.L.L.W. (feet)	Type
	Left	Center	Right		
Third Street (Hwy. & Ry.)	-	103	-	6.0	Bascule, single- leaf.
Fourth Street (Hwy.)	-	75	-	13.0	do.
Sixth Street (Hwy.) (in- operative, open)	50	-	50	12.0	Swing.
Third Street, Islais Creek	-	75	-	6.0	Bascule.

g. Oakland and Alameda Bridges. Oakland and Alameda are connected by four bridges and two vehicular tunnels. A fifth bridge crosses the southeasterly end of Brooklyn Basin providing access between Oakland and Government Island; it is a fixed structure carrying vehicular traffic. The vehicular tunnels-Posey and Webster Tubes-cross the main channel in the Inner Harbor and are located in sufficient depth to afford clearance for all vessels using the waterway. The following list gives information on the four bridges crossing the Tidal Canal in the Inner Harbor:

Location	Type	Clear width (feet)			Clearance above mean higher high water when closed (feet)	Purpose for which used
		Left	Center	Right		
High St.	Bascule	-	240	-	15.0	Highway
Fruitvale Ave.	Bascule	-	95	-	15.0	Highway
Fruitvale Ave.	Vertical lift	-	200	135.0	-	Railroad
Park St.	Bascule	-	240	-	15.0	Highway

h. Carquinez Strait, Suisun Bay and Sacramento River Deep Water Ship Channel Bridges. Vessels transiting eastward from San Pablo Bay to inland ports must pass under the following bridges:

Name and Location	Type	Navigation Opening		Purpose for which used
		Clear width normal to channel (feet)	Minimum clear height above M.H.W. (feet)	

Carquinez Strait

Carquinez Bridge: (1)

Downstream section:	Fixed			
South span		1,030	134	Highway.
North span		1,030	147	do.
Upstream section:	do.			
South span		998	135	do.
North span		1,000	146	do.
Martinez-Benicia	do.	440	135	do.

Suisun Bay

Southern Pacific: (2)

Co. (Southern Pacific Lines)	Ver- ti- cal lift	291	70 closed; Railroad. 135 raised.
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Sacramento River Deep Water Ship Channel

Rio Vista, Calif.
(3)

Ver- ti- cal lift span	270	13 closed; Highway. 138 raised.
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-
- (1) Two adjacent, parallel bridges crossing strait from Crockett to Semple Point (U.S. Highway No. 40).
 - (2) Parallel to and east of Martinez-Benicia Bridge.
 - (3) Located at mile 12.8 above mouth of Sacramento River.
-

i. Sacramento River Shallow-Draft Channel Bridges.

SACRAMENTO RIVER SHALLOW-DRAFT CHANNEL

Miles above mouth	Location	Type of Bridge	Number of spans	Channel spans clear width normal to channel (feet)			Channel spans-clear height of lowest point of superstructure (feet)		Purpose for which used
				(left)	(center)	(right)	(M.L.L.W.)	(H.W.)	
18.7	Isleton, Calif.	Double-leaf bascul	6	-	200	-	-	7	Highway.
26.7	Walnut Grove, Calif.	Bascul	4	-	200	-	-	6	do.
33.3	Painterville, Calif.	do.	3	-	200	-	-	6	do.
46.1	Freeport, Calif.	do.	6	-	200	-	-	6	do.
58.3	W-X Streets	Fixed	2	214	-	214	-	55 ft. above flood plane	do.
59.0	Tower Bridge (M St.) Sac- ramento, Calif. (1)	Vertical lift	7	-	170	-	-	9 closed; 99 raised.	Railroad, highway.
59.4	I Street, Sac- ramento, Calif. (2)	Swing	4	150	-	150	-	4	do.

(1) Railroad track has been permanently removed.

(2) Combination highway and railroad on two separate levels.

j. Stockton Deep Water Ship Channel Bridges.

STOCKTON DEEP WATER SHIP CHANNEL

Name and Location	Type	<u>Navigation Opening</u>		Purpose for which used
		Clear width normal to channel (feet)	Minimum clear height above M.M.W. (feet)	
Antioch , California (1)	Vertical lift span	265	70 closed 135 raised	Highway
Stockton, California (2)	Fixed	150	45	Highway

- (1) The State of California is planning to replace this structure in the near future. The U.S. Coast Guard has advised the State that a minimum width of navigation opening for the replacement structure should be 400 feet.
- (2) Recently constructed Stockton Viaduct (U.S. Interstate Highway 5).

SAN FRANCISCO VESSEL TRAFFIC SYSTEM

20. DISCUSSION

The following pages describe the operating procedures for the San Francisco Vessel Traffic System, incorporating radar surveillance of marine traffic, bridge-to-bridge radiotelephone communications and, effective 15 March 1973, a system of voluntary traffic separation on San Francisco Bay. Although most of the described procedures depend on voluntary compliance of mariners, it is probable that after a suitable period of evaluation and only after full public discussion of the merits and drawbacks of the system, some or all of the procedures will be incorporated into a permanent regulatory system under the authority of the Ports and Waterways Safety Act of 1972.

I. PURPOSE

A. The purpose of the San Francisco Vessel Traffic System is to enhance the safety of navigation in greater San Francisco Bay by reducing the potential for vessel collisions and groundings. This is accomplished by Traffic Separation (the routing of traffic so that unavoidable crossing and meeting situations take place under the most favorable conditions), the relay of navigational safety information collected by the Vessel Traffic Center to the masters or others in charge of the navigation of vessels, and the encouragement of mutual planning via bridge-to-bridge radiotelephone.

B. It is not the function of the Vessel Traffic Center or the Traffic System to direct the movement of vessels, but to enhance, through modern technologies and information gathering processes, the ability of the master or other person in charge of a vessel to exercise his control of the vessel most effectively and safely.

C. The information presented in this manual is intended to provide boat operators and vessel masters with the procedures for voluntary compliance with the San Francisco Vessel Traffic System.

II. APPLICATION

A. The general provisions of this manual apply to all commercial and public vessels, United States flag and foreign flag, regardless of means of propulsion, while operating within the area covered by the Vessel Traffic System. Specific application of various elements of the system to particular classes of vessels is provided in Part V. Recreational vessels are generally not included, except when they choose to use the traffic lanes, in which case the procedures for the traffic separation scheme are applicable.

B. The San Francisco Vessel Traffic System covers the entire waters of the San Francisco Bay Port complex. The Traffic Separation Scheme includes the approaches to the Bay from seaward of the main ship channel, that part of the Bay and its tributaries lying north of Hunters Point, San Pablo Strait, and that part of San Pablo Bay lying south of Pinole Shoal Channel.

C. The San Francisco Vessel Traffic System is intended for use by day and by night, in all weather.

D. Compliance with the instructions in this manual is not mandatory at this time. However, voluntary participation is strongly encouraged in order that the system may be of maximum protection and benefit to all users of San Francisco Bay and its connecting waters.

III. DEFINITION OF TERMS

A. Vessel Traffic System (VTS). Vessel Traffic System is a generic term coined to encompass a variety of technologies employed to cope with the problem of restricted vessel movements in or approaching a port area. In its broadest context the term embraces vessel navigation, communications, surveillance, information display, and certain decision processes.

B. Vessel Traffic Center. The shore-based facility from which the activities and functions of a Vessel Traffic System are coordinated.

C. Traffic Separation Scheme. A system of traffic lanes with separation lanes, traffic areas, and precautionary areas, designed to coordinate the flow of vessel traffic into, out of, and within a port or waterway.

D. Traffic Lane. An area, specially defined by boundary lines and separation lines, intended for use by vessel traffic proceeding in approximately the same direction.

E. Separation Line. A line separating vessel traffic proceeding in opposite or nearly opposite directions.

F. Boundary Line. A line defining the lateral limits of traffic lanes and general limits of areas.

G. Precautionary Area. An area at the convergence of two or more traffic lanes where special caution should be exercised.

H. Limited Traffic Area. An area which should be traversed by certain categories of vessels only after certain safety precautions have been observed.

I. Recreation Area. An area intended primarily for use by recreational craft.

J. Rules of the Road. The statutory and regulatory rules governing the navigation of vessels. The compilation of these rules and regulations is published in pamphlet form by the U.S. Coast Guard, "Rules of the Road, International and Inland" (CG-169).

IV. DESCRIPTION OF THE SAN FRANCISCO VESSEL TRAFFIC SYSTEM

A. Vessel Traffic Lanes. The traffic lanes shown on the chartlets provided as Appendix A, are designed to constrain the movement of vessels of 300 gross tons and above to specified areas. The lateral limits of the traffic lanes are defined by a separation line and boundary lines. Traffic proceeds within the lanes in the direction which holds the separation line to the left, or port side of the vessel.

B. Recreation Areas. The recreation areas should be avoided by vessels other than recreational craft. They should not be utilized by vessels of 300 gross tons or more for through passage or for any other purpose, except in case of emergency or special circumstances.

C. Precautionary Area. The circular area east of Alcatraz Island at the convergence of the traffic lanes is designated as a precautionary area. Crossing encounters between vessels at potentially hazardous points are prevented by the traffic lanes and are relocated in this relatively fog and obstruction free area. Subject to the exercise of special caution, vessels may cross opposing or join diverging traffic lanes within the precautionary area.

D. Limited Traffic Area. The area immediately south of Yerba Buena Island extending from the boundary lines of the vessel traffic lanes eastward to encompass the Oakland Bar Channel, Inner and Outer Harbor Entrance Channels, Oakland Middle Harbor and Oakland Outer Harbor is designated as a Limited Traffic Area. Within this area vessel movement is normally restricted to "one-way" traffic. The Vessel Traffic Center will monitor the Limited Traffic Area and assist vessels in coordinating their movements through the area.

E. Vessel Traffic Center. Manned by U.S. Coast Guard personnel and utilizing radar for surveillance and extensive communications capability for the collection and dissemination of information, the Center monitors traffic within the Vessel Traffic System area and provides information concerning traffic conditions, weather, aids to navigation, unusual operations, and navigational hazards to participating vessels.

NOTE: A geographical description of the system is provided as Appendix B.

V. OPERATING PROCEDURES

A. General Operating Information

1. To insure the success and efficient operation of the San Francisco Vessel Traffic System, it is important that all boats and vessels observe these operating procedures.

2. Any Coast Guard permit obtained by an organization for a race, regatta, or marine parade, shall be considered to apply to all vessels engaged in such race, regatta, or marine parade.

3. It is not the purpose of the San Francisco Vessel Traffic System to attempt to maneuver or navigate vessels from shore. The responsibility for safe navigation remains with the vessel's master. The appropriate Rules of the Road apply to all vessels at all times. Nothing in these procedures should be construed as contravening or modifying the Rules of the Road.

B. Communications Procedures

1. Vessel Traffic System communications are intended primarily for the interchange of navigational safety information between those vessels required to comply with the Vessel Bridge-to-Bridge Radiotelephone Regulations, and the Vessel Traffic Center. The Vessel Traffic Center, radiotelephone call sign "SAN FRANCISCO VESSEL TRAFFIC CENTER", maintains a continuous watch on the following channels.

a. Channel 13 (156.65 Mhz FM)

- (i) Vessel Bridge to Bridge Radiotelephone Frequency
- (ii) Vessel Traffic System working frequency

b. Channel 16 (156.80 Mhz FM) National Distress, safety and calling frequency.

After communications have been established, the abbreviated call sign "VESSEL TRAFFIC CENTER" or simply "CENTER" may be used.

2. Vessels subject to the Vessel Bridge-to-Bridge Radiotelephone Regulations should call and work "CENTER" on channel 13.

a. The guarding of channel 13 does not relieve a vessel of the requirement, set forth in 47 CFR 83.224, to monitor channel 16 (156.80 Mhz FM) the national distress, safety, and calling frequency. The requirement to monitor channel 16 does not apply to single channel stations installed in compliance with the Vessel Bridge-to-Bridge Radiotelephone Regulations.

b. Nothing in these procedures should be construed as contravening or modifying the Vessel Bridge-to-Bridge Radiotelephone Regulations.

3. To preclude the probability that calls from the many small craft on the bay may overload the Vessel Traffic System and Bridge-to-Bridge Radiotelephone Frequency, recreational vessels are requested to minimize communications with the Vessel Traffic Center on channel 13. Those recreational craft that have the capability to guard two channels simultaneously are encouraged to monitor channel 13 when actually navigating within a traffic lane or precautionary area. Passive monitoring of channel 13 will provide some information on major vessel movements, special operations, the status of Aids to Navigation etc., without congesting the frequency.

4. The Center is also equipped to communicate on channels 12 and 18. In event a vessel loses channel 13 capability, the Center should be called on channel 16. After communications have been re-established, the vessel and the Center will shift to channel 12 or 18 as mutually agreed.

5. All communications with the Vessel Traffic Center should be in the English language and the 24 hour clock system will be used.

6. Voluntary position reports are essential for satisfactory operation of the Vessel Traffic System. Position reports will allow the Center to identify vessels by comparing the reported position with targets appearing on the radar display.

7. Vessels subject to the Vessel Bridge-to-Bridge Radiotelephone Regulations should report to the Vessel Traffic Center when they:

a. DEPART a berth or anchorage. (Reports 15 to 30 minutes before getting underway are encouraged).

b. PASS any of the following reporting points, which are near the limits of radar coverage of the Center.

- (i) San Francisco Approach Lighted Horn Buoy "SF"
- (ii) Hunters Point
- (iii) Oakland Inner Harbor Light #4
- (iv) Point Potrero (in Richmond Harbor)
- (v) Point San Pablo

c. ENTER or DEPART the waters subject to the San Francisco Vessel Traffic System at any other location not covered in (a) or (b) above:

d. LEAVE the flow of traffic in a traffic lane to anchor, dock, or for any other reason.

8. The initial report should include the name of the vessel, the pilot unit designator, destination, desired route if other than within a traffic lane, and any additional information such as a pilot change intentions or local weather. To reduce the length of routine communications the following report format should be used:

- a. Vessel name and pilot unit designator
- b. Movement information (departing/arriving/passing)
- c. Position
- d. Destination
- e. Other intentions (pilot change, etc.)

Example:

SAN FRANCISCO VESSEL TRAFFIC CENTER THIS IS UNIT 26 ON THE GOLDEN BEAR

Unit Identifiers

<u>DEPARTING</u>	<u>SEVENTH STREET TERMINAL</u>	<u>FOR SEA</u>	<u>PILOT CHANGE</u>
<u>Movement Information</u>	<u>Position</u>	<u>Destination</u>	<u>OFF FRONT</u>
			Other information

9. The Center will acknowledge the receipt of a position report and will confirm its accuracy by "read back" of the report. If the Center believes the report to be incomplete or in error, the vessel will be requested to repeat the report. The only reports which should be routinely made are those outlined above. However, in special circumstances such as radar failure, the Vessel Traffic Center may request progressive position reports. In addition mariners are requested to report abnormal navigational hazards or changing visibility conditions when they are encountered.

10. Information concerning vessel traffic conditions, navigational hazards, or restricted visibility will be provided by the Vessel Traffic Center, without request, to vessels in response to their initial report. Additional information will be provided at any time upon request or without request if, in the interest of safety, such information is considered to be beneficial.

C. Traffic Separation Scheme Procedures

1. All vessels operating within the San Francisco Bay port complex should comply with these traffic separation procedures.

2. Vessels of 300 gross tons or over, including public vessels should navigate within the vessel traffic lanes, except for those vessels engaged in intra-harbor movements whose route does not infringe on the traffic separation scheme. However, these vessels should notify the VTC of departure and intended route.

3. Other vessels may either utilize or remain clear of the vessel traffic lanes; however, when utilizing the traffic lanes such vessels should comply with these traffic separation procedures.

4. Vessels navigating within the traffic lanes should keep the separation line to the left or port side of the vessel and should maintain a course which conforms with the direction of the lane. The arrows printed on the charts to indicate tracks are intended to give the general direction of movement only. Vessels need not set their courses strictly along the arrows.

5. Vessels are encouraged to join and leave the traffic lanes at the precautionary area or at the termination of the lanes. When it is necessary for a vessel to join or leave the traffic lane at some point other than the precautionary area or a lane termination, the vessel should join or leave the traffic lane at as small an angle as practicable.

6. Vessels should avoid crossing the traffic lanes whenever possible. When it is necessary to cross a traffic lane, this should be done at as close to a right angle as practicable.

7. Except when joining, leaving, crossing, or navigating in a vessel traffic lane or precautionary area, vessels should stay clear of the lanes and precautionary area by as wide a margin as practicable.

8. Vessels within the traffic lanes which cannot comply with these traffic separation procedures because of emergency should complete whatever maneuvers are required for safe navigation, and notify the Vessel Traffic Center of the circumstances as soon as possible.

9. Vessels 300 gross tons or over that, for some reason other than emergency, cannot comply with the traffic separation procedures or desire to deviate from prescribed procedures, should notify the Vessel Traffic Center sufficiently in advance of each proposed deviation to allow for coordination with other vessels. This includes any vessel whose deep draft precludes it from following the traffic lanes. Even though similar deviations are made repeatedly, a vessel should advise the Vessel Traffic Center each and every time it proposes to deviate from the guidelines.

10. Organizations which have obtained Coast Guard Permits for races, regattas or marine parades, will be considered to have provided constructive notice to the Vessel Traffic Center of the movement of all participating vessels.

D. Limited Traffic Area Procedures

1. It is the intent of these procedures that the Limited Traffic Area in the East Bay be utilized by only one vessel at a time or by vessels proceeding generally in the same direction. However, under favorable conditions, and only after clear understanding has been reached between vessels as to the point and manner of passing, two vessels may agree to pass within this area. The Vessel Traffic Center should be advised of such passing arrangements.

2. Vessels 300 gross tons or over intending to transit this area should notify the Vessel Traffic Center of the intended period of transit. This should be done at least 30 minutes before entering the area. Such vessels should not enter the Limited Traffic Area when another vessel 300 gross tons or over is in the area proceeding in the opposite direction.

3. The Center will advise each vessel stating an intention to transit this area whenever its intended transit conflicts with the known intent of any other vessel. Vessels should notify the Center immediately of any change in intended transit period to prevent unnecessary delays of other vessels.

E. Anchoring Procedures

1. Section 110.224 of the Coast Guard Anchorage Regulations, found in Title 33 of the Code of Federal Regulations, prohibits the anchoring of vessels in the navigable waters of San Francisco Bay or San Pablo Bay outside the anchorage areas, except when unforeseen circumstances create circumstances of imminent peril or with the written permission of the Captain of the Port. Each vessel anchoring in imminent peril or heavy fog is required by section 110.224 of the Coast Guard Anchorage Regulations to immediately inform the Captain of the Port of her position and reason for anchoring.

2. The Vessel Traffic Center will accept the notification required above on behalf of the Captain of the Port. Vessels which have notified the Vessel Traffic Center of their actions will be in compliance with section 110.224 of the Regulations.

3. A vessel anchoring outside the established anchorage area for reason of imminent peril or heavy fog should be positioned outside the vessel traffic lanes insofar as practicable. If necessary to anchor within a traffic lane, the vessel should be positioned as near the boundary line of the lane as is practicable.

REVISED ANCHORAGES
TRAFFIC SEPARATION SCHEME
ANCHORAGES

ANCHORAGE
3, 4, 5, 6, 9, 18, 20

7

8

10

12

13

16

UTILIZATION

GENERAL TEMPORARY

GENERAL TEMPORARY, 12 HOUR

GENERAL TEMPORARY, 6 HOURS

UTILIZING VESSELS MUST BE

PREPARED TO VACATE ON 1 HOUR NOTICE

NAVAL, PUBLIC VESSELS, YACHTS

ON NOT TO INTERFERE BASIS

EXPLOSIVE TEMPORARY, ACTIVATED

ONLY UPON NOTIFICATION OF CAPTAIN OF

THE PORT, OTHERWISE UTILIZED AS

REMANINDER OF ANCHORAGE 9

EXPLOSIVES ANCHORAGE, TEMPORARY

GENERAL WITH VERBAL PERMISSION FROM

CAPTAIN OF THE PORT UTILIZING

VESSELS MUST BE PREPARED TO VACATE

ON ONE HOUR NOTICE

EXPLOSIVES ANCHORAGE

LEGEND

LIMITS OF ANCHORAGE

SEPARATION LINE BETWEEN OPPOSING

TRAFFIC

LIMITS OF TRAFFIC SEPARATION

LIMITS OF TRAFFIC SEPARATION

COASTING PROHIBITED TO VESSELS OVER

100 YDS

TRAFFIC FLOW INDICATORS

NOTE: THIS CHART NOT TO BE USED FOR

UNITED STATES WEST COAST
CALIFORNIA

SAN FRANCISCO ENTRANCE

Entrance to San Francisco Bay

ENTRANCE TO SAN FRANCISCO BAY

ANCHORAGE	UTILIZATION	REMARKS
3	GENERAL TEMPORARY	
4	GENERAL TEMPORARY, 12 HOUR	
5	GENERAL TEMPORARY, 6 HOURS	
6	UTILIZING VESSELS MUST BE PREPARED TO VACATE ON 1 HOUR NOTICE	
9	NAVAL, PUBLIC VESSELS, YACHTS ON NOT TO INTERFERE BASIS	
18	EXPLOSIVE TEMPORARY, ACTIVATED ONLY UPON NOTIFICATION OF CAPTAIN OF THE PORT, OTHERWISE UTILIZED AS REMANINDER OF ANCHORAGE 9	
20	EXPLOSIVES ANCHORAGE, TEMPORARY GENERAL WITH VERBAL PERMISSION FROM CAPTAIN OF THE PORT UTILIZING VESSELS MUST BE PREPARED TO VACATE ON ONE HOUR NOTICE	

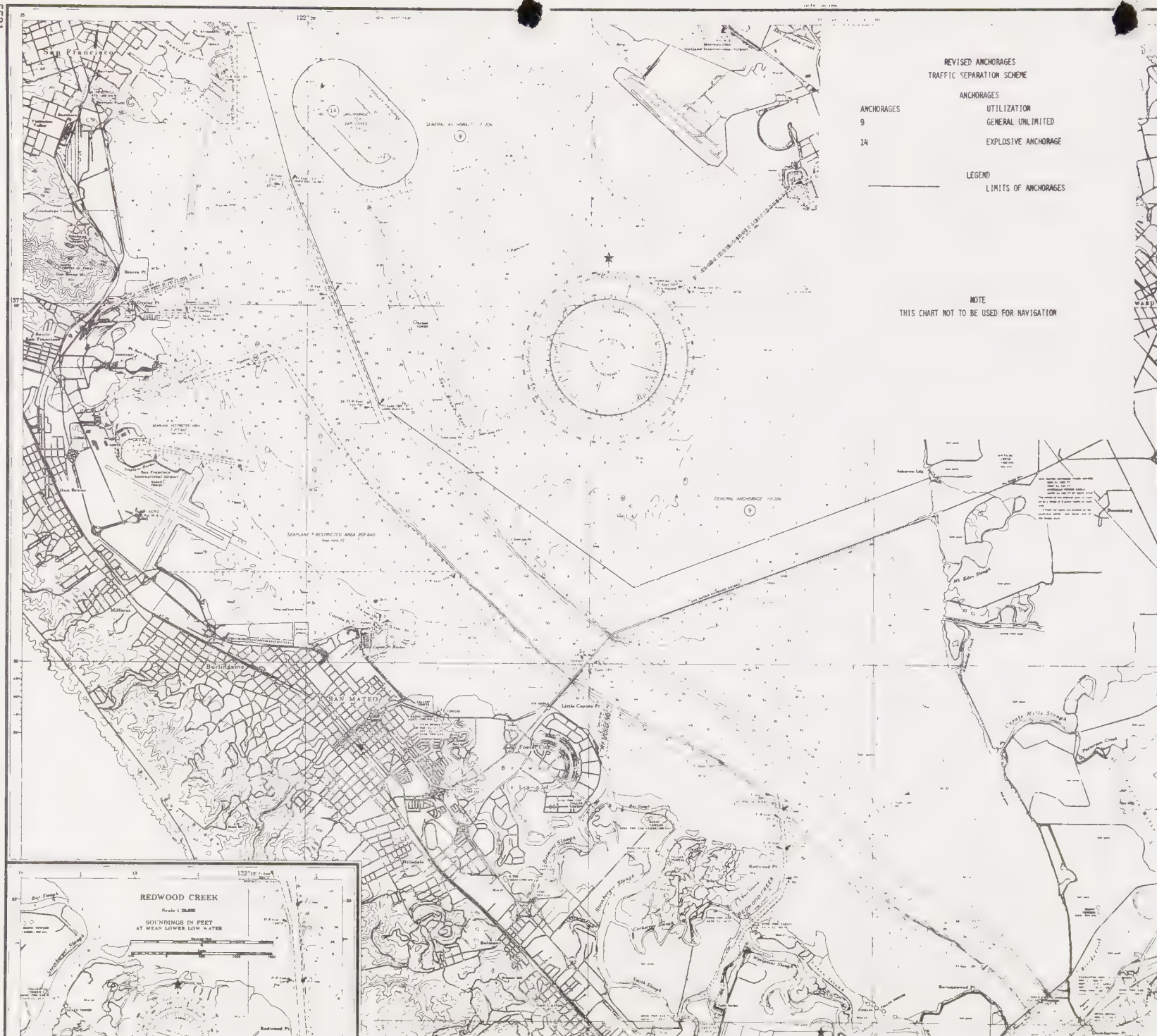
REMARKS: This chart is not to be used for navigation purposes. It is a general reference chart showing the limits of anchorage and traffic separation in the San Francisco Entrance. The limits are shown by dashed lines and the traffic flow indicators are shown by arrows. The chart is based on the latest available information and is subject to change without notice.

ANCHORAGE	UTILIZATION	REMARKS
3	GENERAL TEMPORARY	
4	GENERAL TEMPORARY, 12 HOUR	
5	GENERAL TEMPORARY, 6 HOURS	
6	UTILIZING VESSELS MUST BE PREPARED TO VACATE ON 1 HOUR NOTICE	
9	NAVAL, PUBLIC VESSELS, YACHTS ON NOT TO INTERFERE BASIS	
18	EXPLOSIVE TEMPORARY, ACTIVATED ONLY UPON NOTIFICATION OF CAPTAIN OF THE PORT, OTHERWISE UTILIZED AS REMANINDER OF ANCHORAGE 9	
20	EXPLOSIVES ANCHORAGE, TEMPORARY GENERAL WITH VERBAL PERMISSION FROM CAPTAIN OF THE PORT UTILIZING VESSELS MUST BE PREPARED TO VACATE ON ONE HOUR NOTICE	

NOTE
THIS CHART NOT TO BE USED FOR NAVIGATION

Measuring station is upstream existing from channel of Lake of State Lake, Lake Erie								Project Description	
Channel Rego Line	Left Bank	Left Bank	Right Bank	Right Bank	State of Bank	Water Depth	Rego Line	Water Depth	Rego Line
A	11.9	77.0	90.0	90.0	0.71	750	11.9	77.0	90.0
B	20.0	71.7	90.0	90.0	0.71	750	20.0	71.7	90.0
C	10.0	90.0	90.0	90.0	0.71	750	10.0	90.0	90.0
D	11.0	90.0	90.0	90.0	0.71	750	11.0	90.0	90.0
E	10.0	90.0	90.0	90.0	0.71	750	10.0	90.0	90.0
F	10.0	90.0	90.0	90.0	0.71	750	10.0	90.0	90.0
G	10.0	90.0	90.0	90.0	0.71	750	10.0	90.0	90.0

[illegible]



APPENDIX B

GEOGRAPHICAL DESCRIPTIONS

a. Limited Traffic Area

(1) A Limited Traffic Area is established for traffic entering and departing the Oakland Harbors. This area in San Francisco Bay is bounded by the westerly shore of Oakland and the lines between the following points: Beginning at the shore of Oakland at latitude $37^{\circ}49'11.8''$, longitude $122^{\circ}19'07.5''$, thence southwesterly to latitude $37^{\circ}48'28.6''$, longitude $122^{\circ}20'34''$; thence westerly to latitude $37^{\circ}48'14''$, longitude $122^{\circ}22'05''$; thence south southeasterly to latitude $37^{\circ}47'26''$, longitude $122^{\circ}21'41''$; thence northeasterly to latitude $37^{\circ}47'56''$, longitude $122^{\circ}21'22.5''$; thence easterly to latitude $37^{\circ}48'03''$, longitude $122^{\circ}20'57.5''$; thence east southeasterly to Oakland Inner Harbor Light 2 at latitude $37^{\circ}47'52''$, longitude $122^{\circ}19'54''$; thence east southeasterly to latitude $37^{\circ}47'49''$, longitude $122^{\circ}19'41''$; thence north northeasterly to the shore of Oakland at latitude $37^{\circ}47'55''$, longitude $122^{\circ}19'39''$; thence along the Oakland shore to the point of origin.

b. Recreation Areas

(1) That area of San Francisco Bay bounded by the northerly shore of San Francisco and the following lines: Beginning at the south pier of the Golden Gate Bridge at latitude $37^{\circ}48'52''$, longitude $122^{\circ}28'36.5''$; thence easterly to San Francisco Bay Degaussing Range Lighted Bell Buoy "B" at latitude $37^{\circ}48'50''$, longitude $122^{\circ}26'14''$; thence southeasterly to the shore of San Francisco at Pier 45 at latitude $37^{\circ}48'42.5''$, longitude $122^{\circ}25'09.5''$.

(2) That area of San Francisco Bay including all of Richardson Bay and Raccoon Strait bounded on the west and north by the shores of Marin Peninsula and Tiburon Peninsula and the following lines: Beginning at Lime Point at latitude $37^{\circ}49'30''$, longitude $122^{\circ}28'38''$; thence northeasterly to Raccoon Strait Lighted Gong Buoy "1" at latitude $37^{\circ}50'38''$, longitude $122^{\circ}27'08''$; thence easterly to latitude $37^{\circ}51'04''$, longitude $122^{\circ}24'54''$; thence northerly to latitude $37^{\circ}51'51''$, longitude $122^{\circ}24'55''$; thence northwesterly to the shore of Tiburon Peninsula at Point Chauncey at latitude $37^{\circ}53'40.5''$, longitude $122^{\circ}26'55''$.

c. Precautionary Area - A circular area in San Francisco Bay east of Alcatraz Island having a radius of 1200 yards centered at latitude 37°49'39", longitude 122°24'25", excluding that area east of longitude 122°23'44" which is part of Anchorage 7.

d. Traffic Separation Lanes

(1) The entrance-exit separation for that area in San Francisco Bay extending from the main ship channel to a precautionary area east of Alcatraz Island.

(a) The traffic separation line dividing incoming (eastbound) traffic from outgoing (westbound) traffic is established by the lines between the following points:

<u>LATITUDE</u>	<u>LONGITUDE</u>
37°45'56.5"	122°38'00"
37°47'00"	122°34'20"
37°48'08"	122°31'00"
37°49'11"	122°28'40" (mid span, Golden Gate Bridge)
37°49'34"	122°25'16" (Alcatraz Light)

(b) A traffic lane is established on each side of the traffic separation line described in (d(1) (a)) above. The incoming (eastbound) traffic lane is established as that area bounded by the separation line and the lines between the following points:

<u>LATITUDE</u>	<u>LONGITUDE</u>
37°45'48"	122°37'40" (main ship channel buoy "2")
37°47'50"	122°30'45"
37°48'52"	122°28'36.5" (Golden Gate Bridge south pier)
37°48'50"	122°26'14" (San Francisco Bay Degaussing Range Lighted Bell Buoy "B")
37°48'42.5"	122°25'09.5" (Pier 45)

The outgoing (westbound) traffic lane is established as that area bounded by the separation line and the lines between the following points:

<u>LATITUDE</u>	<u>LONGITUDE</u>	
37°46'12"	122°37'52"	(main ship channel buoy "1")
37°46'54"	122°35'20"	(main ship channel buoy "7")
37°49'30"	122°28'38"	(Lime Point)
37°50'38"	122°27'08"	(Raccoon Strait Lighted Gong Buoy "1")
37°51'04"	122°24'54"	

(2) The San Francisco Bay North Channel separation plan for that area extending north from the precautionary area east of Alcatraz Island under the Richmond-San Rafael Bridge to San Pablo Bay.

(a) The traffic separation line dividing southbound from northbound traffic is established by the lines between the following points:

<u>LATITUDE</u>	<u>LONGITUDE</u>	
37°50'14"	122°24'19"	
37°51'52.5"	122°24'19"	(San Francisco Bay North Channel Lighted Buoy "A")
37°54'07"	122°26'37"	(San Francisco Bay North Channel Lighted Buoy "B")
37°54'47"	122°26'54"	(San Francisco Bay North Channel Lighted Buoy "C")
37°56'07.5"	122°26'36"	(mid span, Richmond-San Rafael Bridge West opening)
37°57'36"	122°26'45"	(San Francisco Bay North Channel Lighted Buoy "D")
38°00'38"	122°24'07"	(San Pablo Bay Lighted Bell Buoy "E")
38°01'48"	122°22'20"	

(b) A traffic lane is established on each side of the traffic separation line described in (d (2) (a)) above. The northbound traffic lane is established as that area bounded by the separation line and the lines between the following points:

<u>LATITUDE</u>	<u>LONGITUDE</u>	
37°50'00"	122°23'44"	(San Francisco Bay North Channel Lighted Buoy "2")
37°51'54"	122°23'44"	(San Francisco Bay North Channel Lighted Buoy "6")

37°54'49"	122°26'39"	(San Francisco Bay North Channel Lighted Buoy "10")
37°56'07"	122°26'30"	(East Pier, Richmond-San Rafael Bridge west opening)
37°57'18"	122°26'24"	(San Francisco Bay North Channel Lighted Buoy "16")
37°57'36"	122°26'20"	(San Francisco Bay North Channel Buoy "18")
38°01'46"	122°22'18"	(San Pablo Bay Channel Lighted Bell Buoy "6")

The southbound traffic lane is established as that area bounded by the separation line and the lines between the following points:

<u>LATITUDE</u>	<u>LONGITUDE</u>	
37°51'04"	122°24'54"	
37°51'51"	122°24'55"	
37°54'15"	122°27'24"	
37°56'08"	122°26'45"	(West Pier, Richmond-San Rafael Bridge, West opening)
37°57'26.5"	122°27'19"	(San Francisco Bay North Channel Light "17")
38°00'47.5"	122°24'41"	(San Pablo Bay Channel Lighted Buoy "3")
38°01'52.5"	122°22'23"	(San Pablo Bay Channel Lighted Buoy "5")

(3) The San Francisco Bay South Channel separation plan for that area extending south from the precautionary area east of Alcatraz Island under the San Francisco-Oakland Bay Bridge.

(a) The traffic separation line dividing southbound from northbound traffic is established by the lines between the following points:

<u>LATITUDE</u>	<u>LONGITUDE</u>	
37°49'07"	122°24'08"	(Blossom Rock Lighted Bell Buoy "BR")
37°47'54"	122°22'37"	(Pier C, San Francisco-Oakland Bay Bridge)
37°46'37"	122°22'00"	(Southern Limit of system)

(Extended, this line would pass through San Francisco Bay South Channel Lighted Buoy "1").

(b) A traffic lane is established on each side of the traffic separation line described in (d (3) (a)). The pier heads along the San Francisco waterfront serve as a natural southbound boundary. The northbound traffic lane is established as that area bounded by the separation line and the lines between the following points:

LATITUDE

37°49'22"

37°48'20"

37°47'00"

LONGITUDE

122°23'45"

122°22'09" (Pier E, San Francisco-Oakland Bay Bridge)

122°21'30"

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